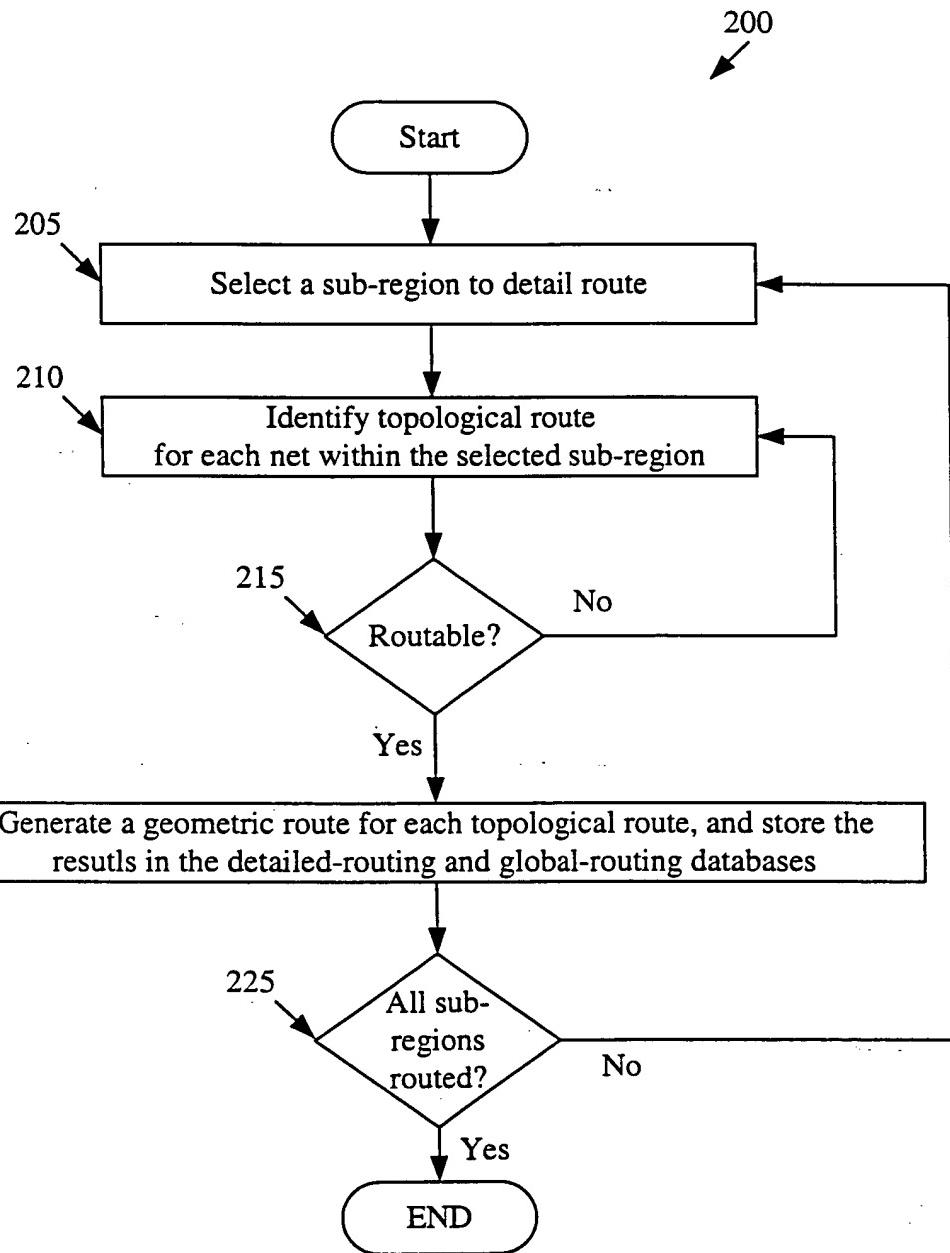
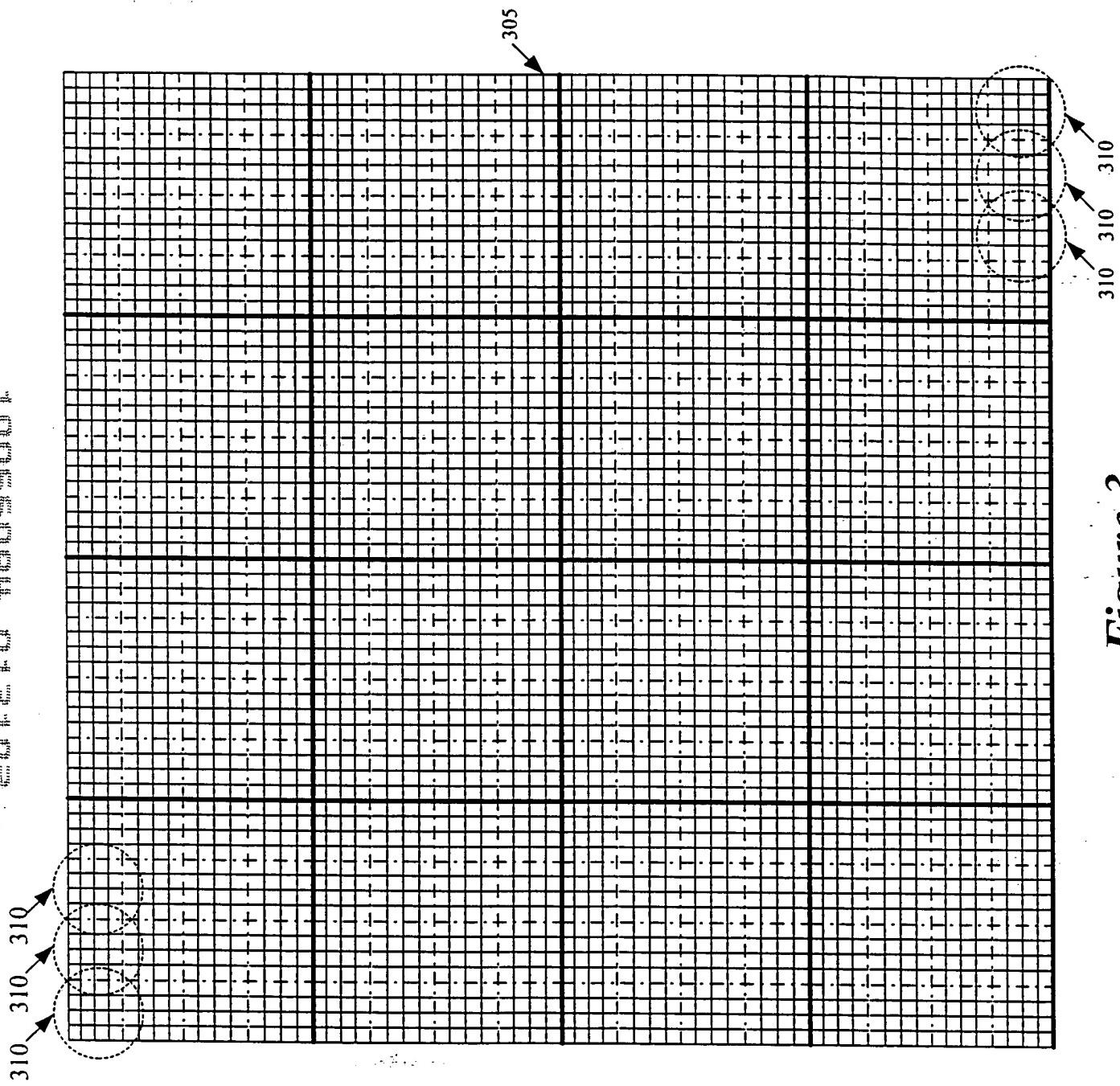


*Figure 1*



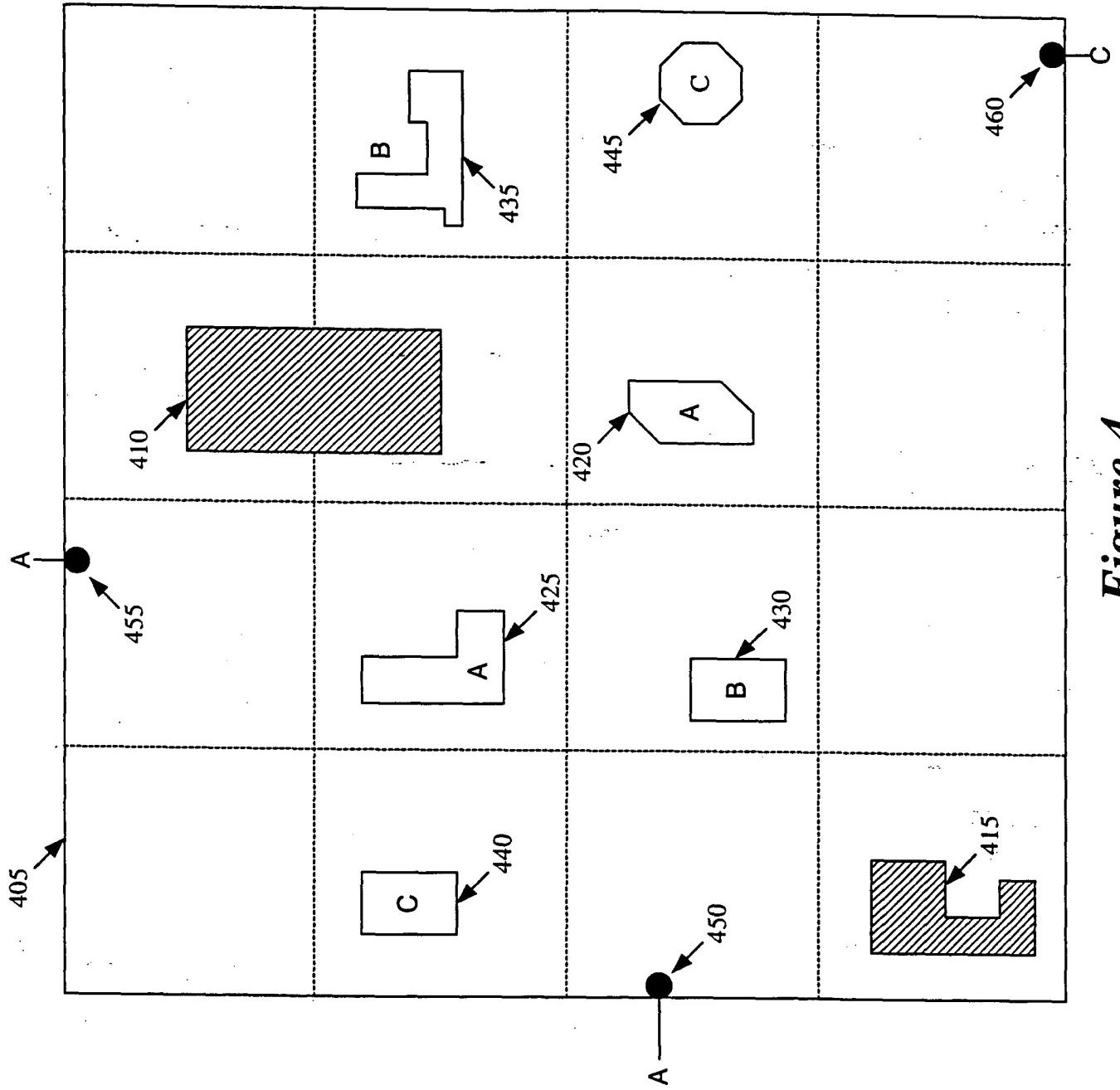
*Figure 2*

ENTERTAINMENT LIBRARY

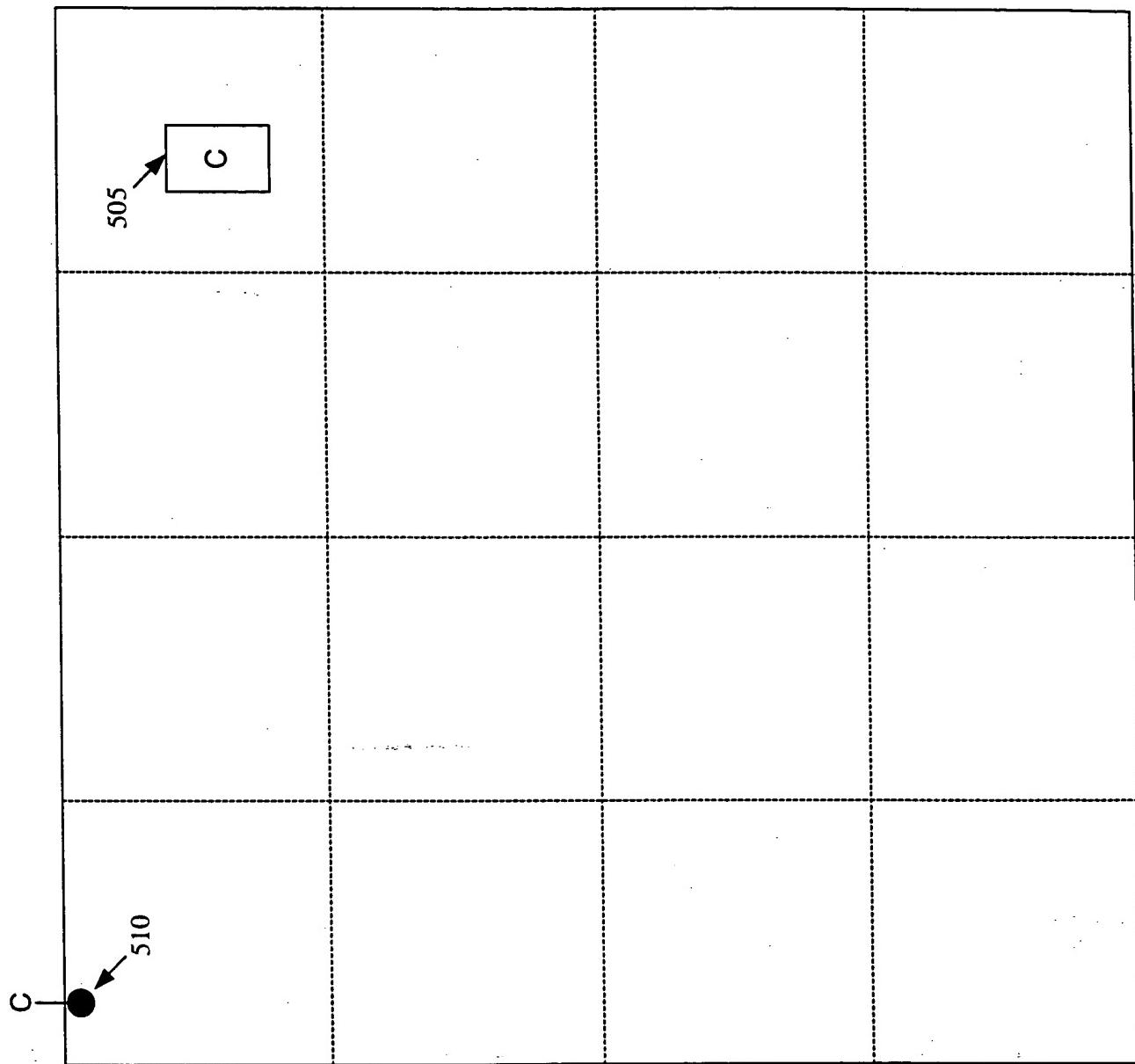


*Figure 3*

**Figure 4**



*Figure 5*



- List of Geometries
  - Each Geometry including a sequence of points & layer assignment
  - Bounding box of the region
  - Array of layer properties
    - Minimum wire size
    - Minimum spacing
    - Via sizes
    - Cost/Unit
  - Netlist specifying a number of nets
    - Each net specifying a set of pins
      - Each pin specifying a set of ports
        - Each port specifying a set of geometries

**Figure 6**

- List of Geometries
  - Each Geometry including a sequence of points & layer assignment
  - List of connection nodes inside each pin geometry
  - Bounding box of the region
  - Array of layer properties
    - Minimum wire size
    - Minimum spacing
    - Via sizes
    - Cost/Unit
  - Netlist specifying a number of nets
    - Each net specifying a set of pins
      - Each pin specifying a set of ports
        - Each port specifying a set of geometries
  - For each layer, a graph specifying
    - Nodes
    - Edges
    - Faces

**Figure 7**

<b>Face</b> <ul style="list-style-type: none"> <li>-Reference to 3 edges</li> <li>-Reference to 3 nodes</li> <li>-Up to two references for up to two face item</li> </ul>	<b>Edge</b> <ul style="list-style-type: none"> <li>-Two references for up to two faces of the edge</li> <li>-Capacity</li> <li>-Flow</li> <li>-Constrained</li> <li>-Linked list of items on the edge starting with one of the edge's nodes and ending with its other node</li> </ul>
	 800 → 900

*Figure 8*

*Figure 9*

Node
-Net Identifier
-One or more planar-path references to adjacent topological items in the same planar path
-A pair of via-path references to up and down topological via items
1000
-A references to list of edges connected to the node
-For each edge, an edge reference to the next or previous topological item on the edge
-A reference to the geometry of the node
-Vertex number identifying the vertex of the geometry
-Location of the node

*Figure 10*

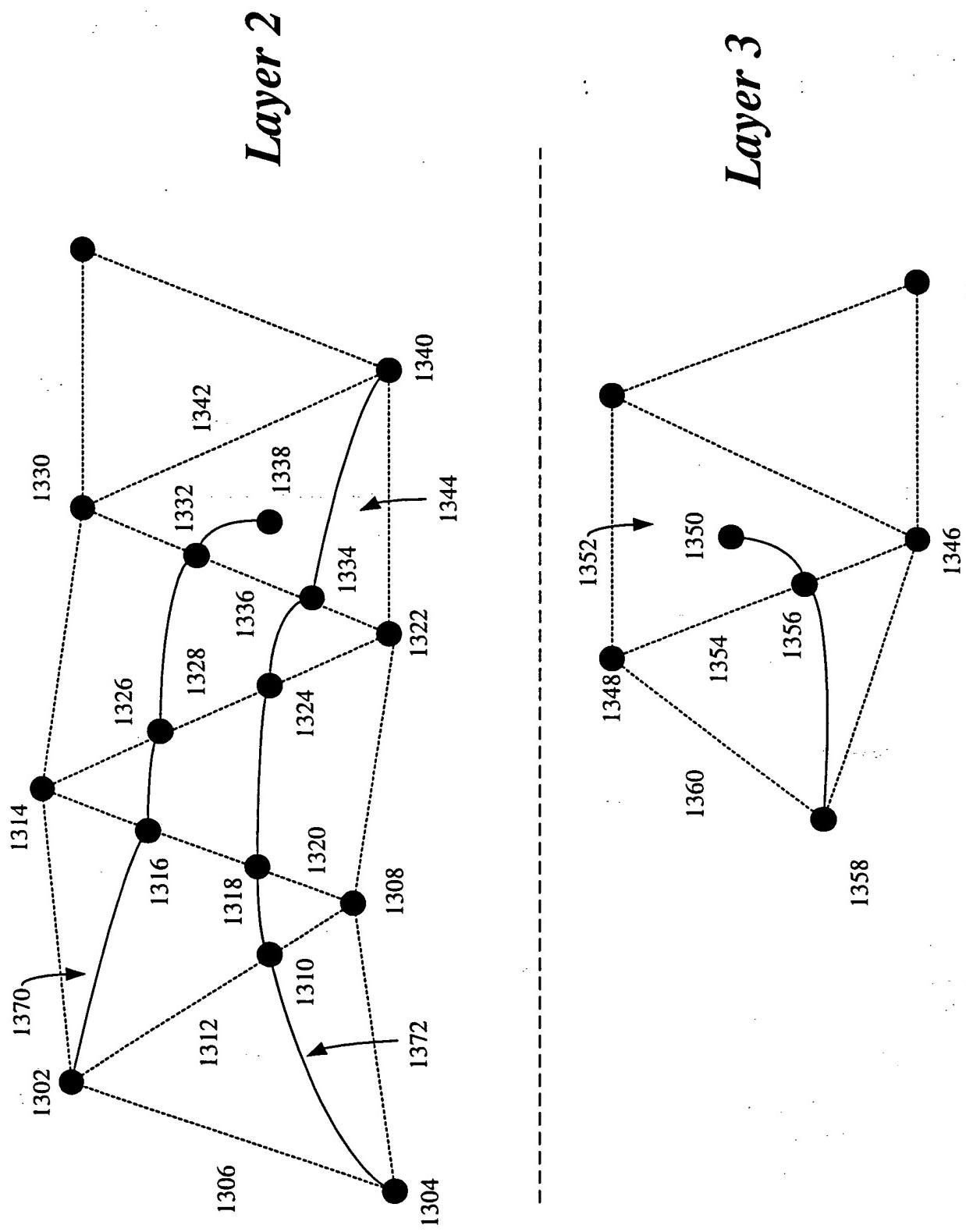
Face Item
-Reference to its face
-Net Identifier
-Up to 3 planar-path references for adjacent topological items in the same planar path
1200
-A pair of via-path references for up and down topological via items
-Bounding polygon that defines legal face item locations
-Constraining Points and Distances

*Figure 11*

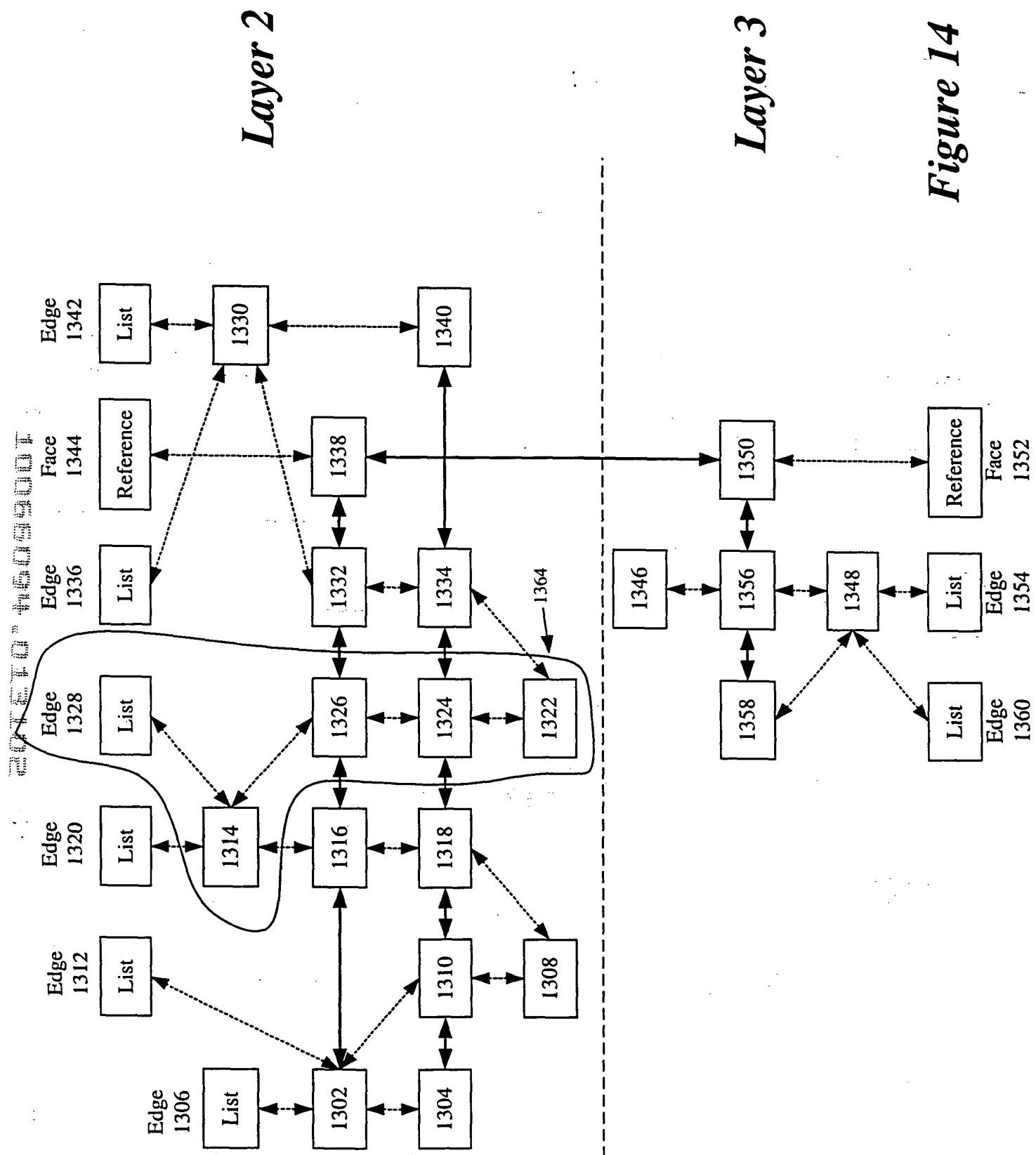
Edge Item
-Reference to its edge
-Net Identifier
-A pair of planar-path references to adjacent topological items in the same planar path
1100
-A pair of edge references to the next and previous topological item on the edge

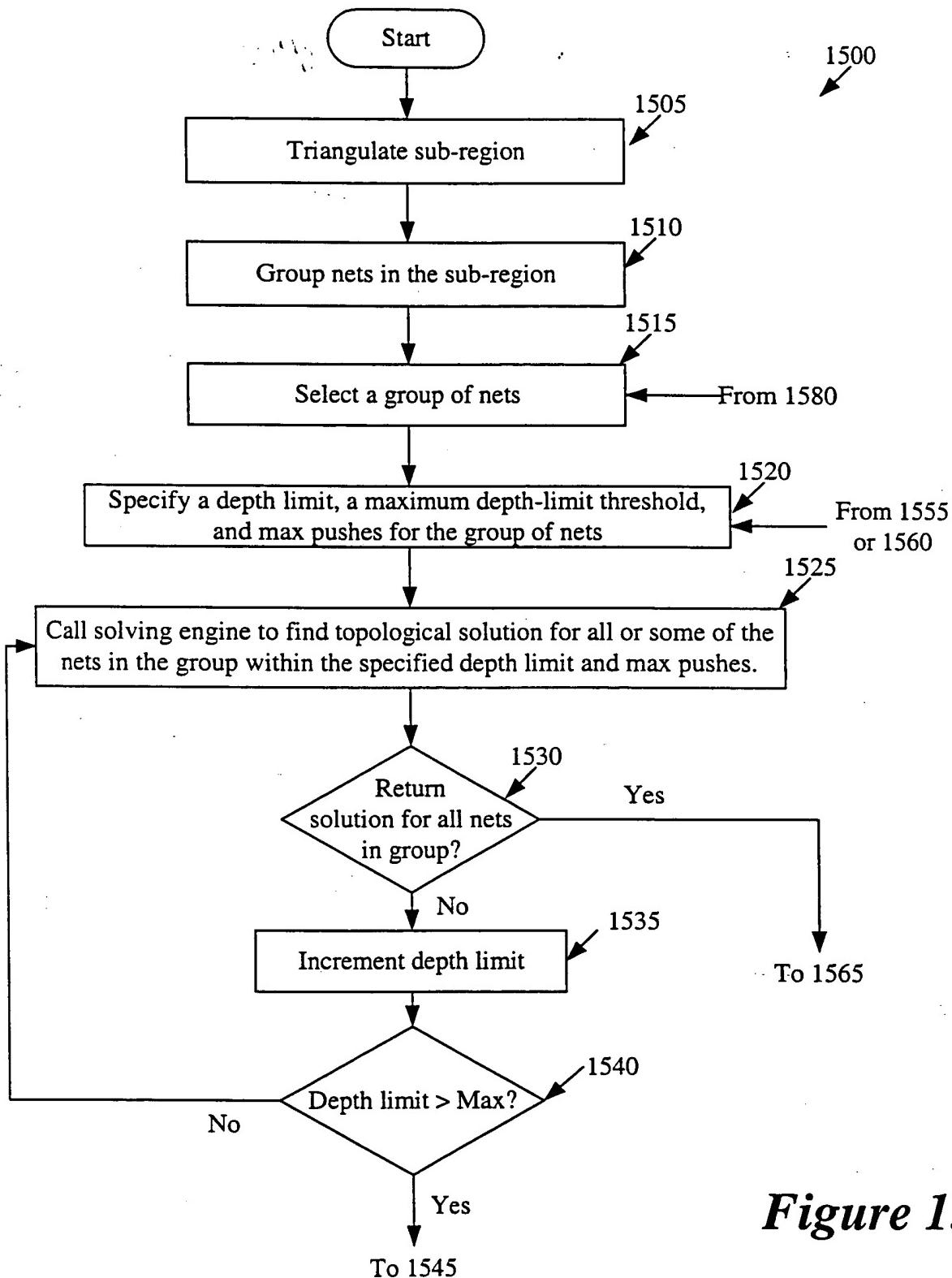
*Figure 12*

**Figure 13**

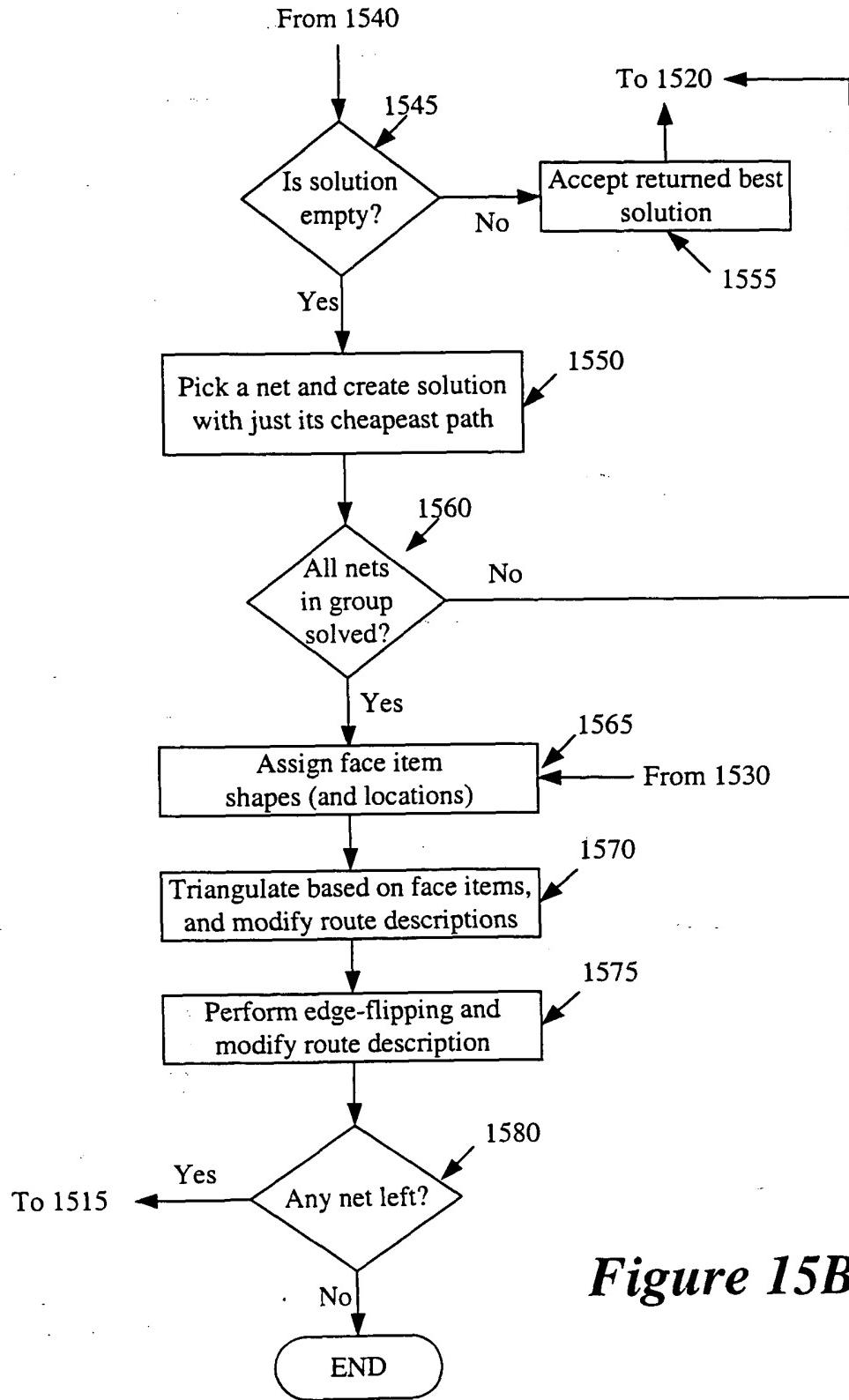


**Figure 14**

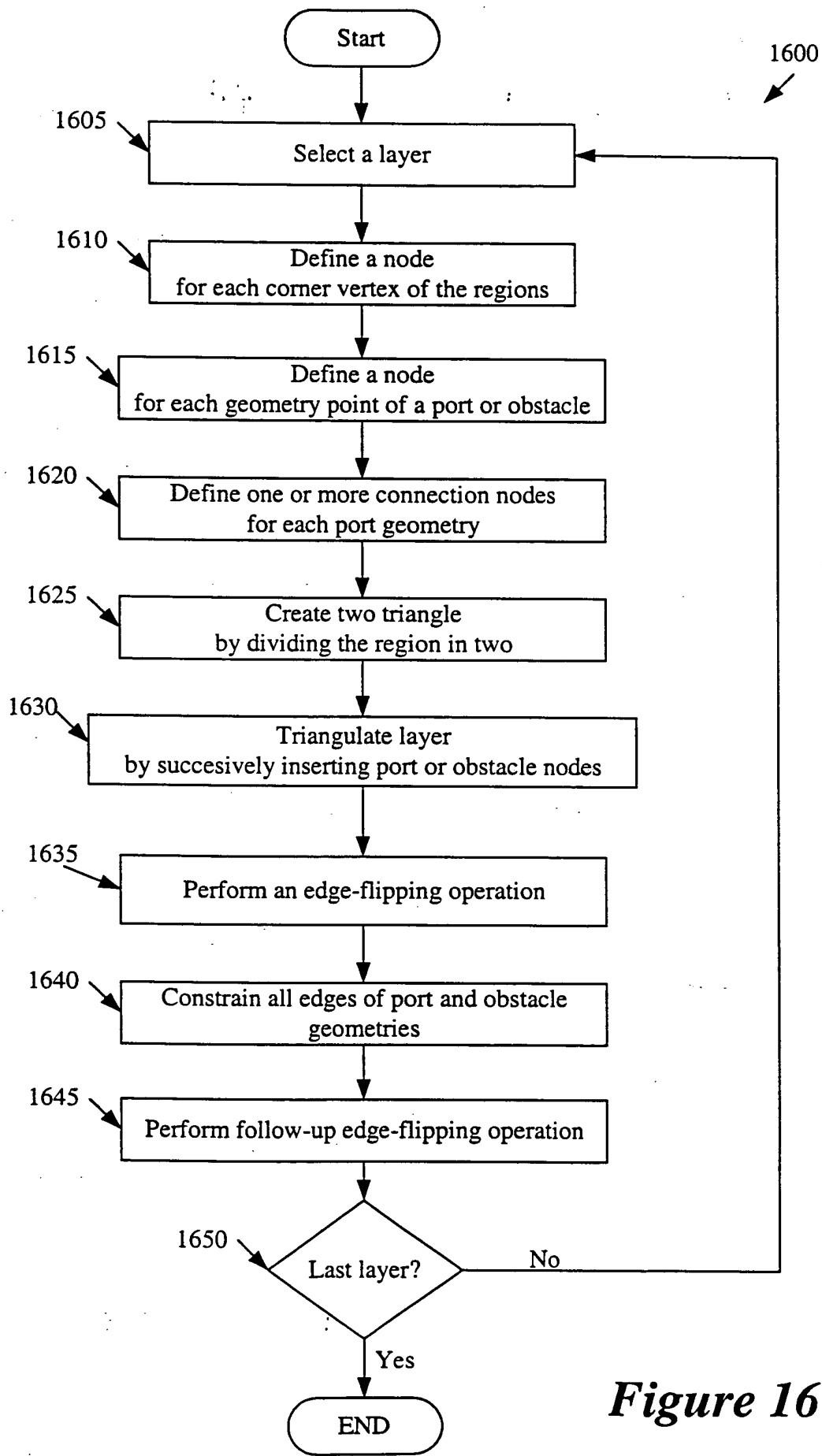


*Figure 15A*

*Figure 15:*  $\frac{\text{Figure 15A}}{\text{Figure 15B}}$

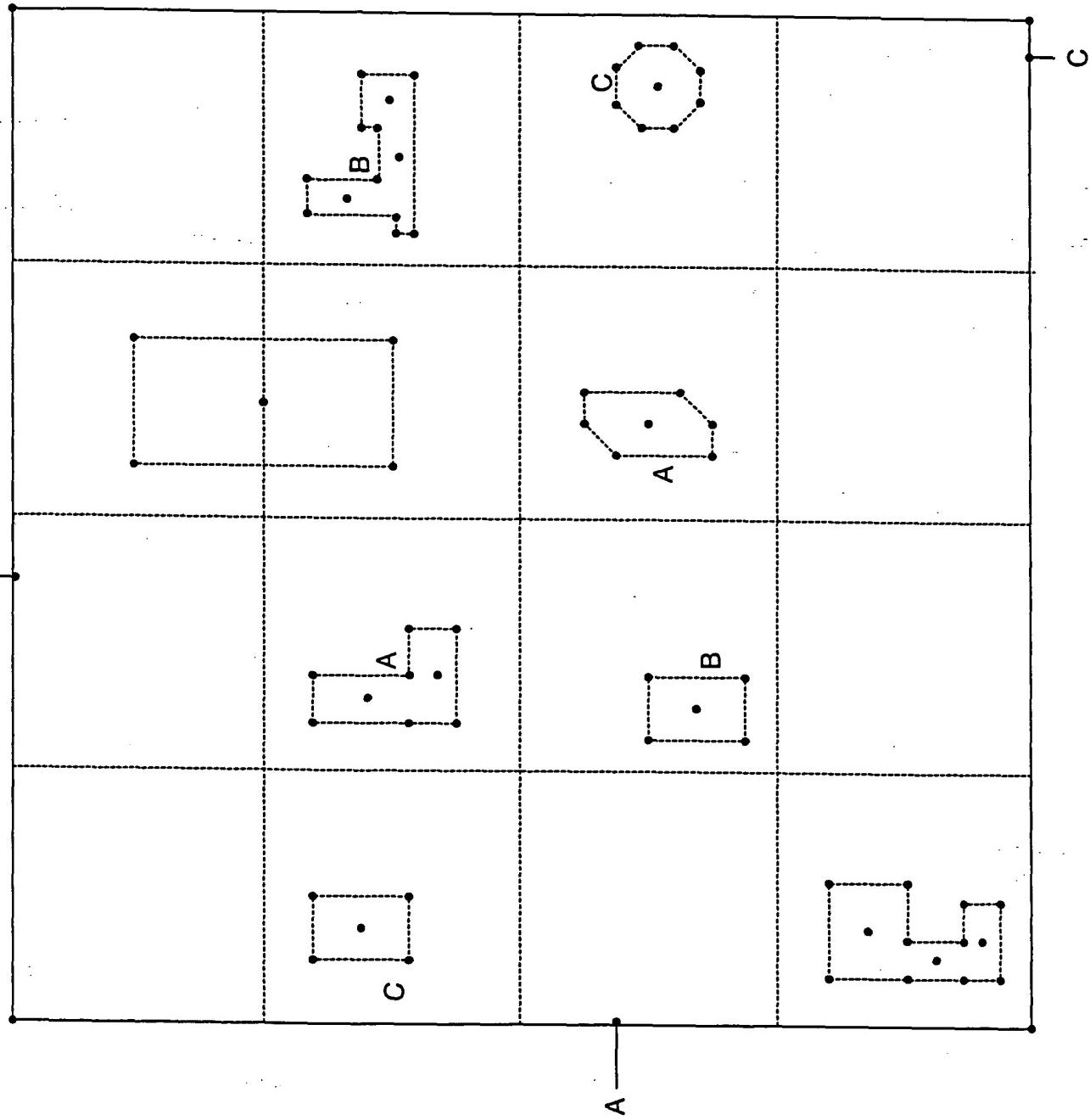


**Figure 15B**



**Figure 16**

**CENTRAL AREA CONNECT**



**Figure 17**

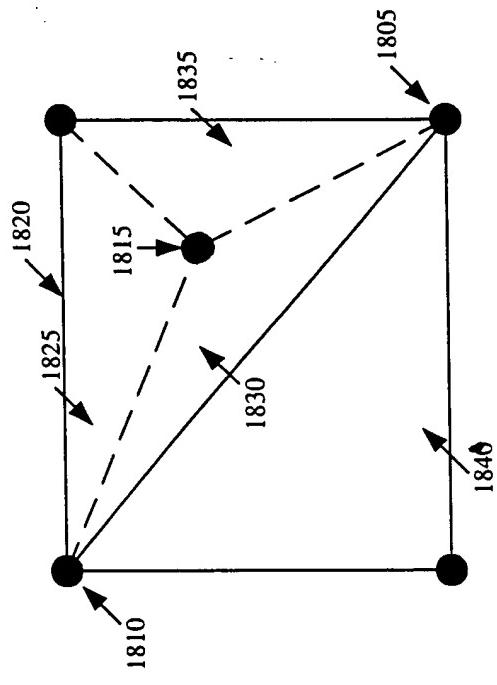


Figure 18

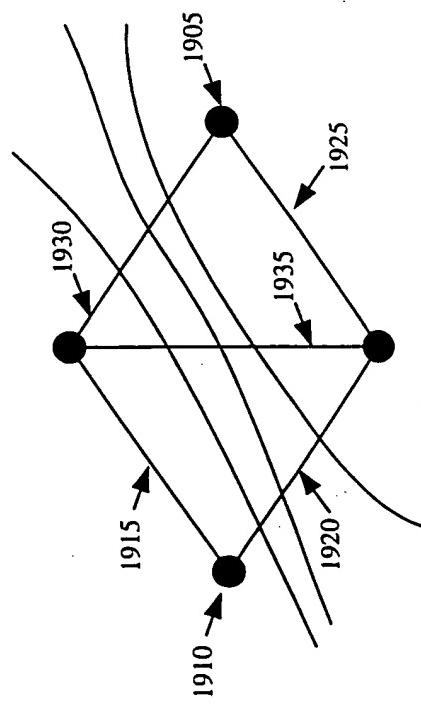


Figure 19

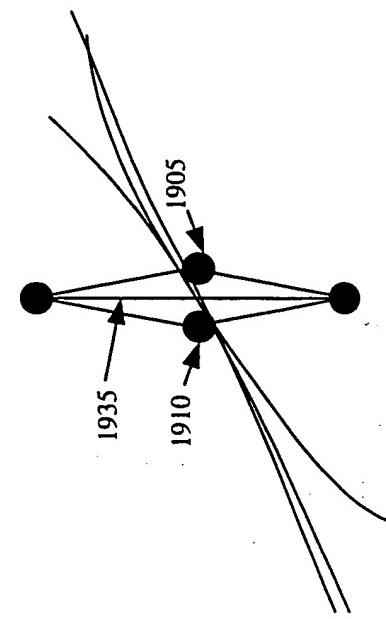
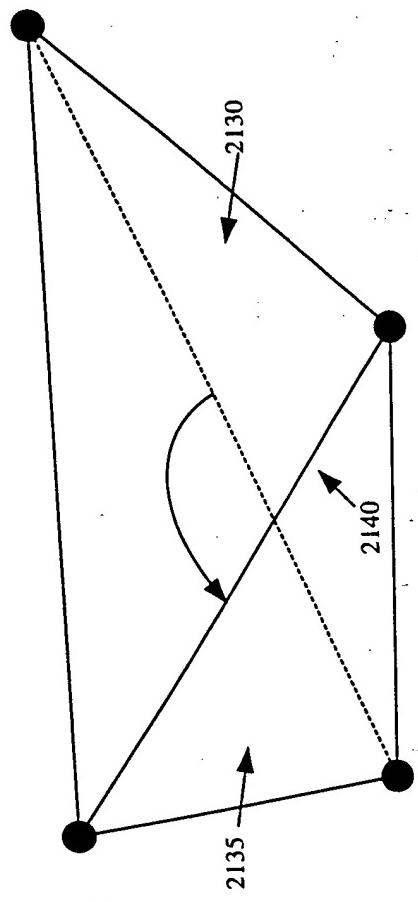
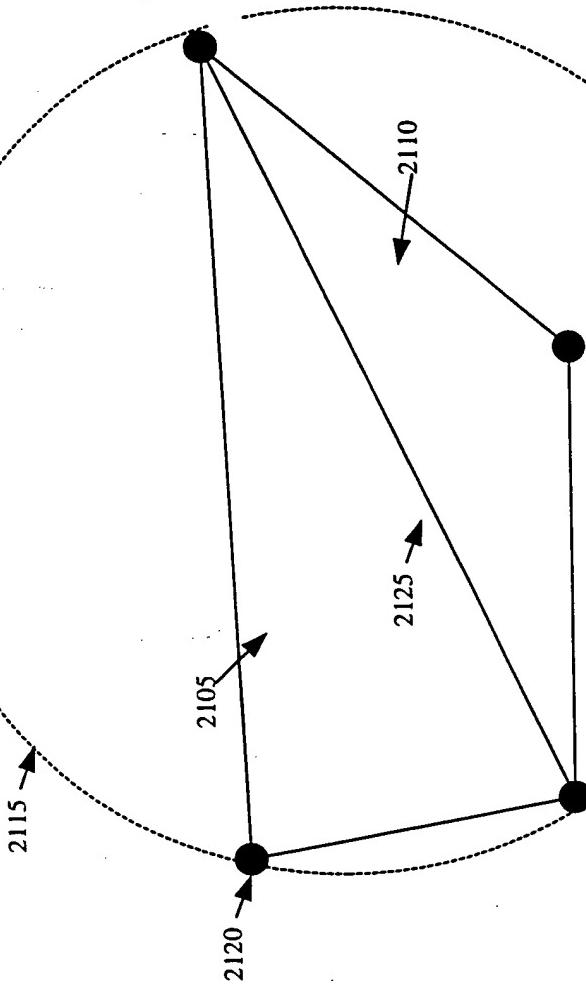


Figure 20

*Figure 22*



*Figure 21*



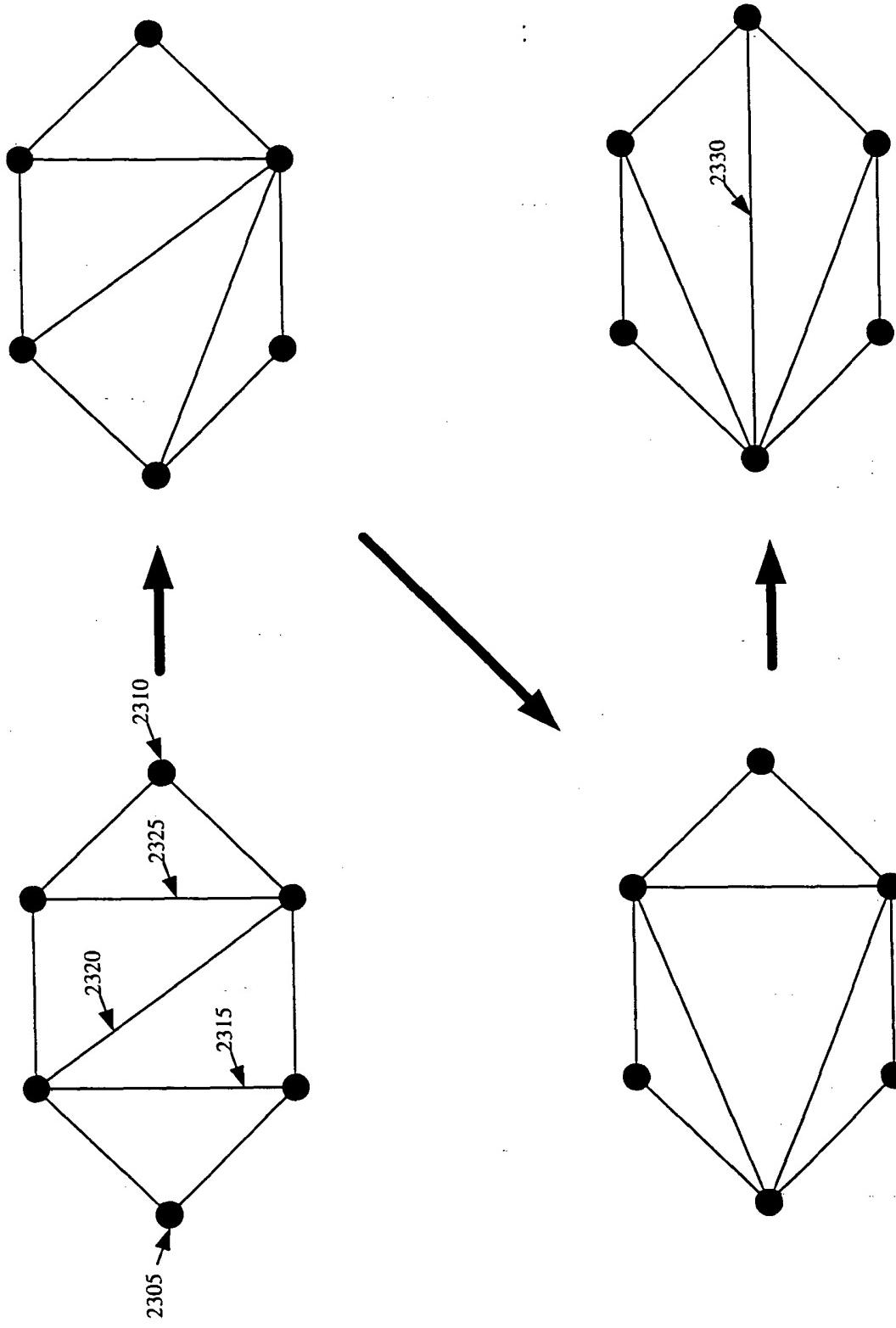
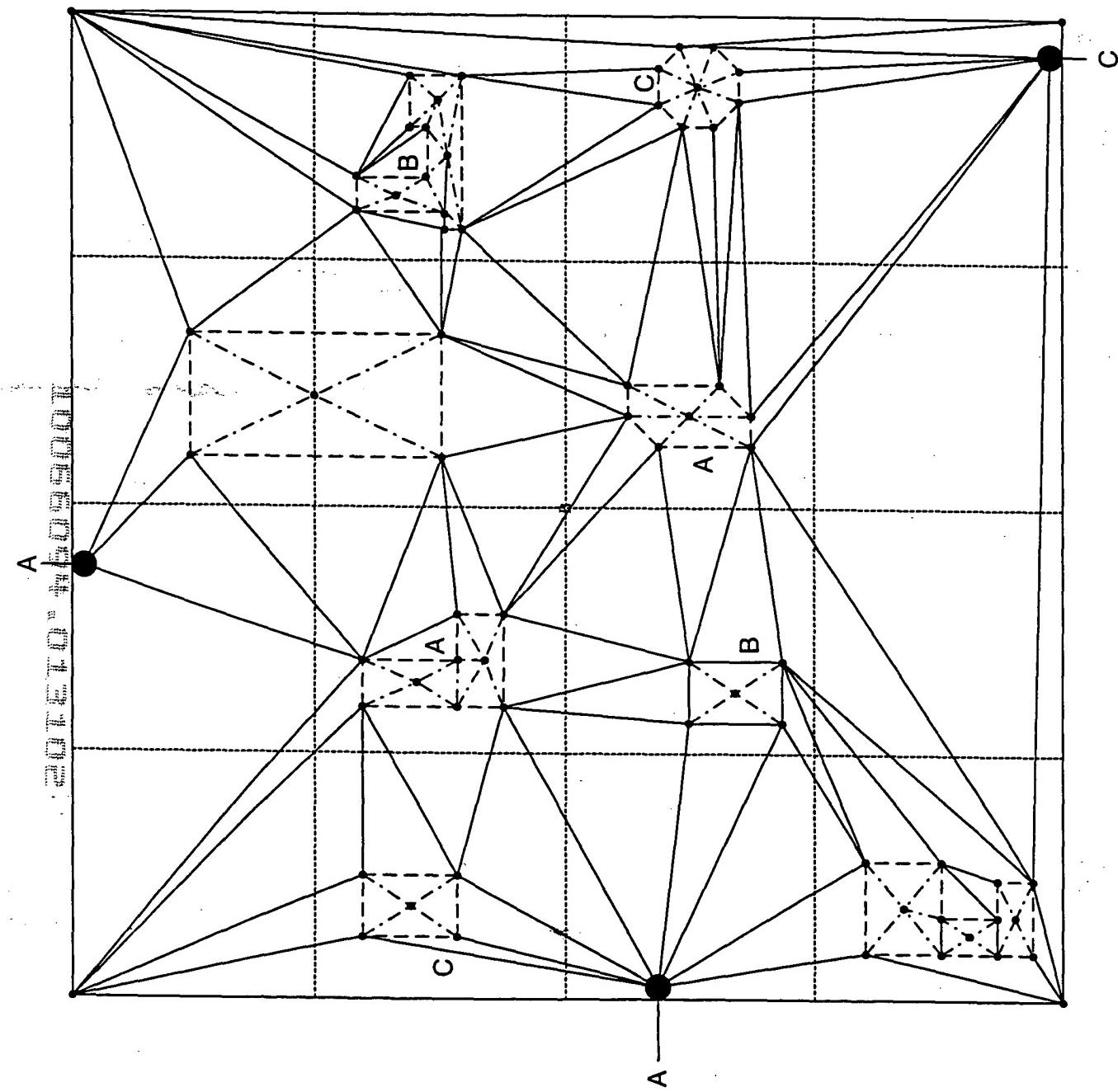
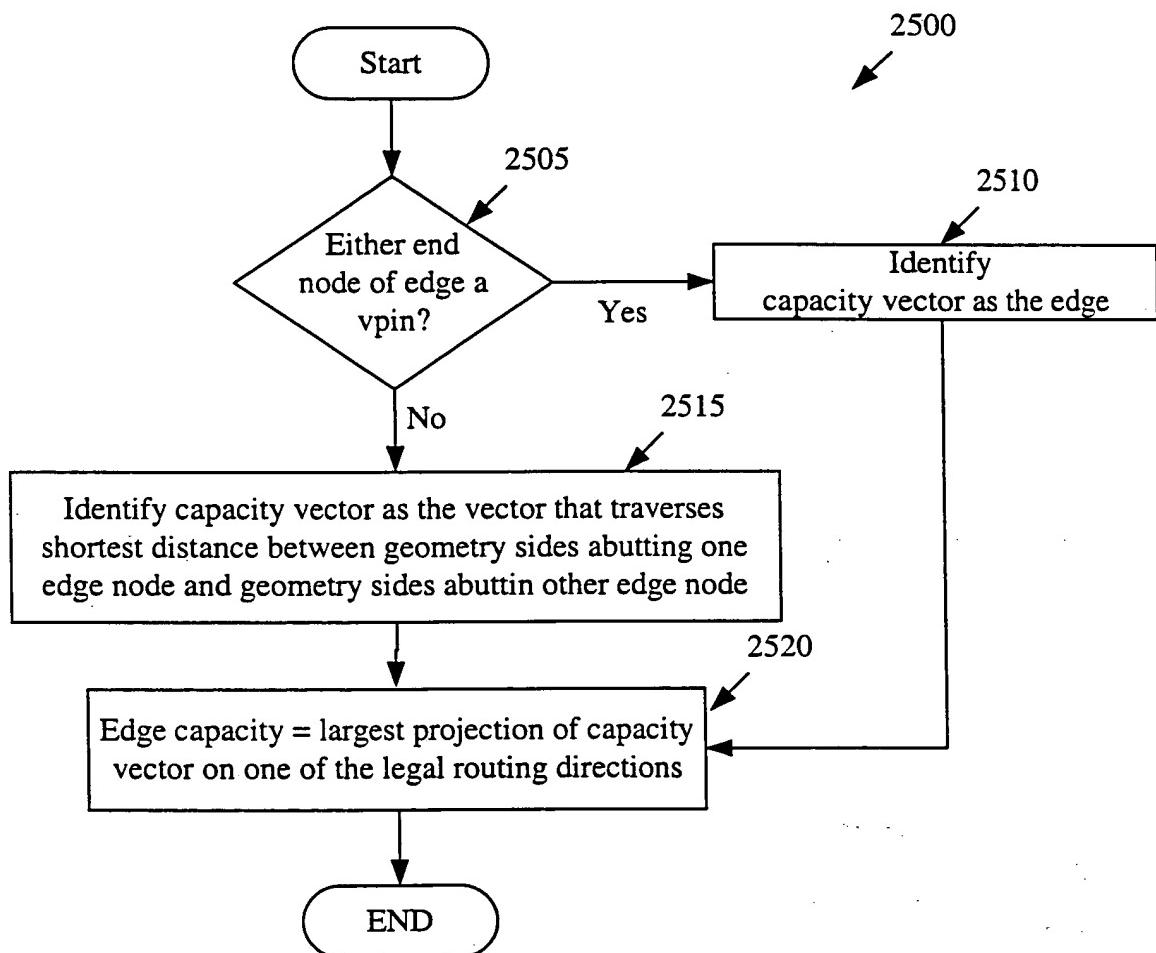


Figure 23

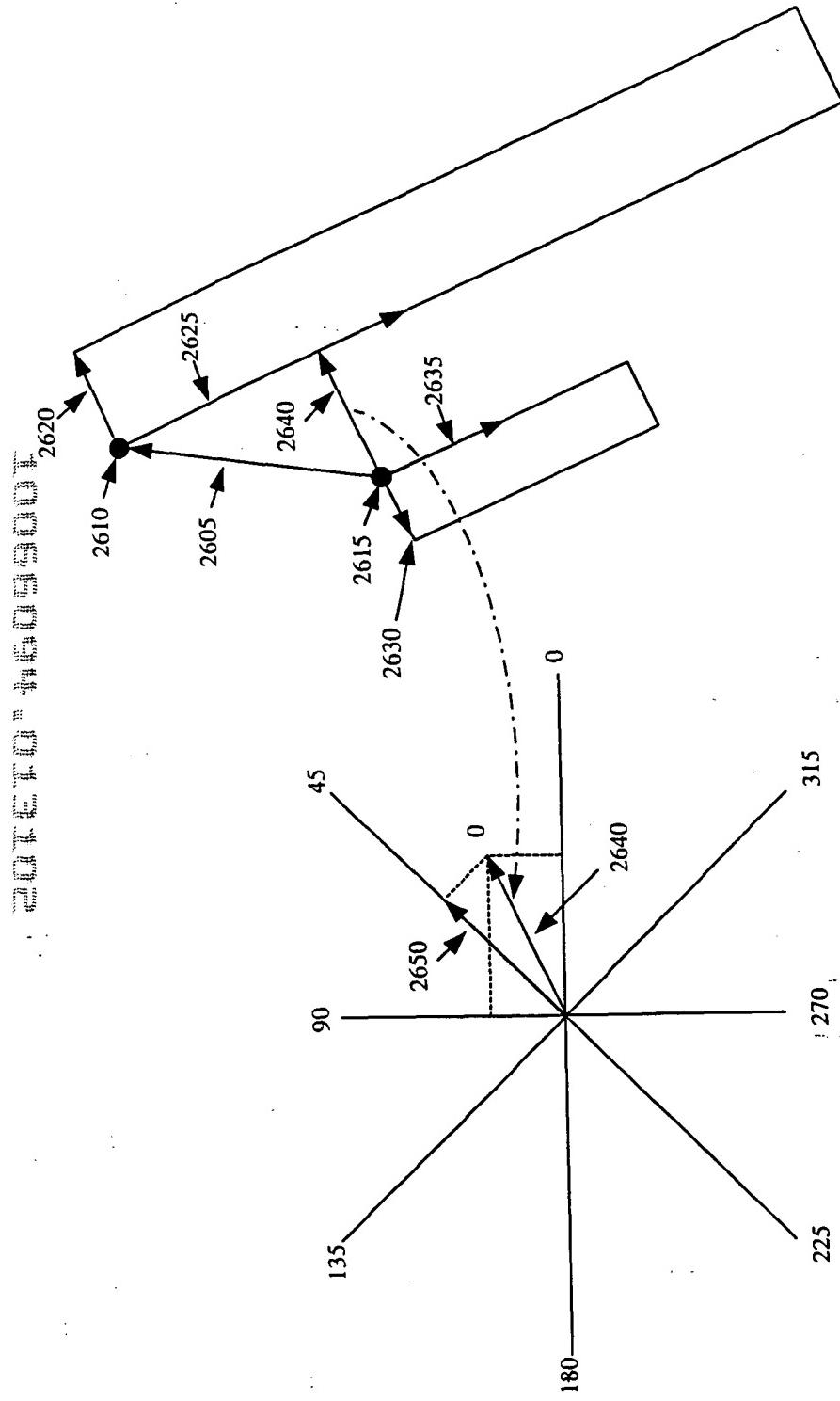
*Figure 24*





**Figure 25**

*Figure 26*



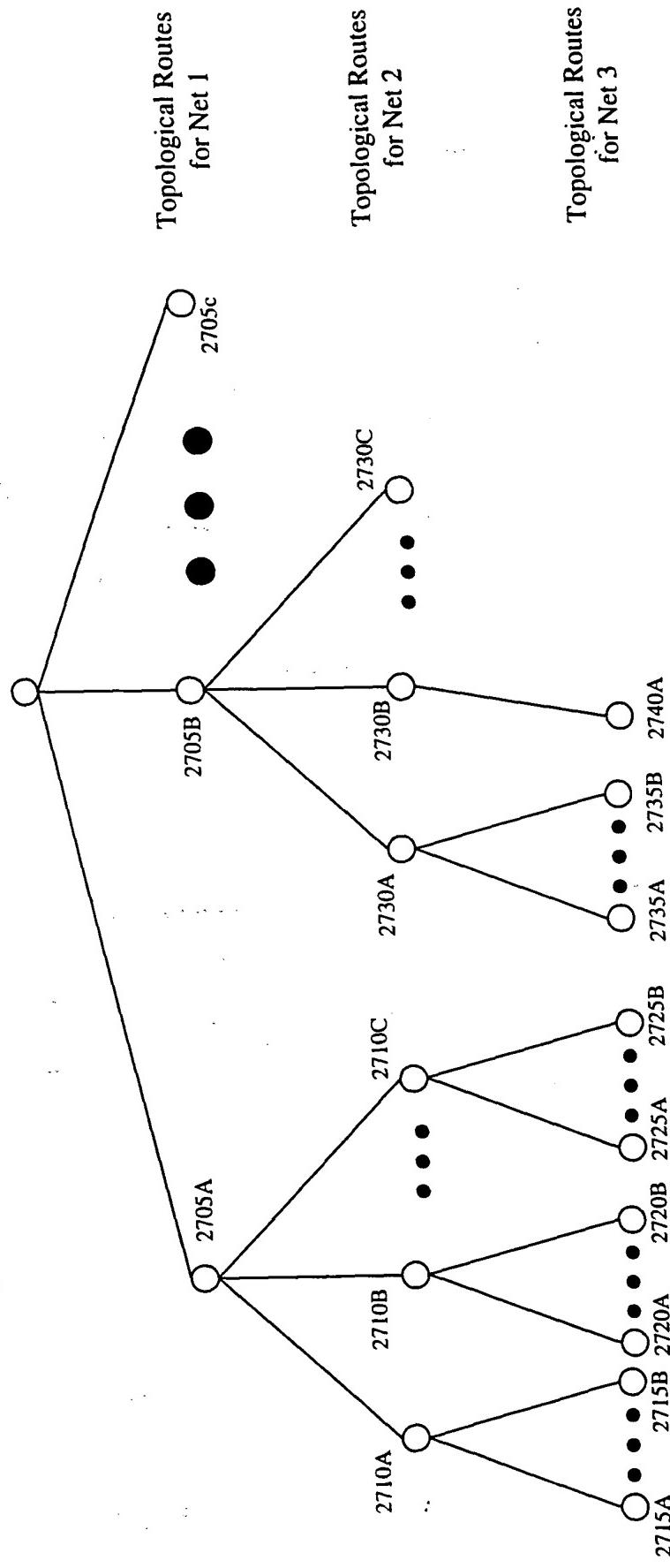
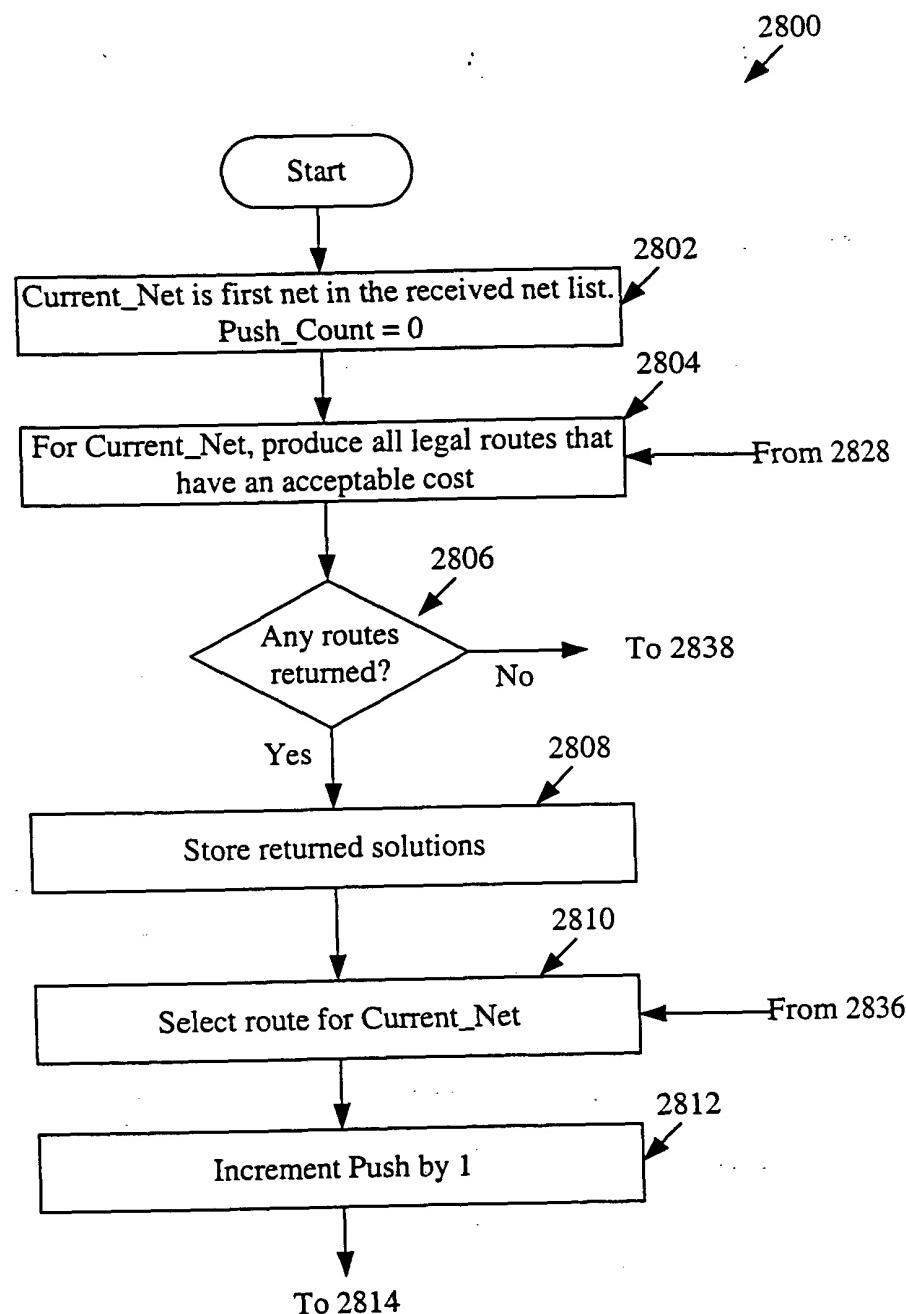
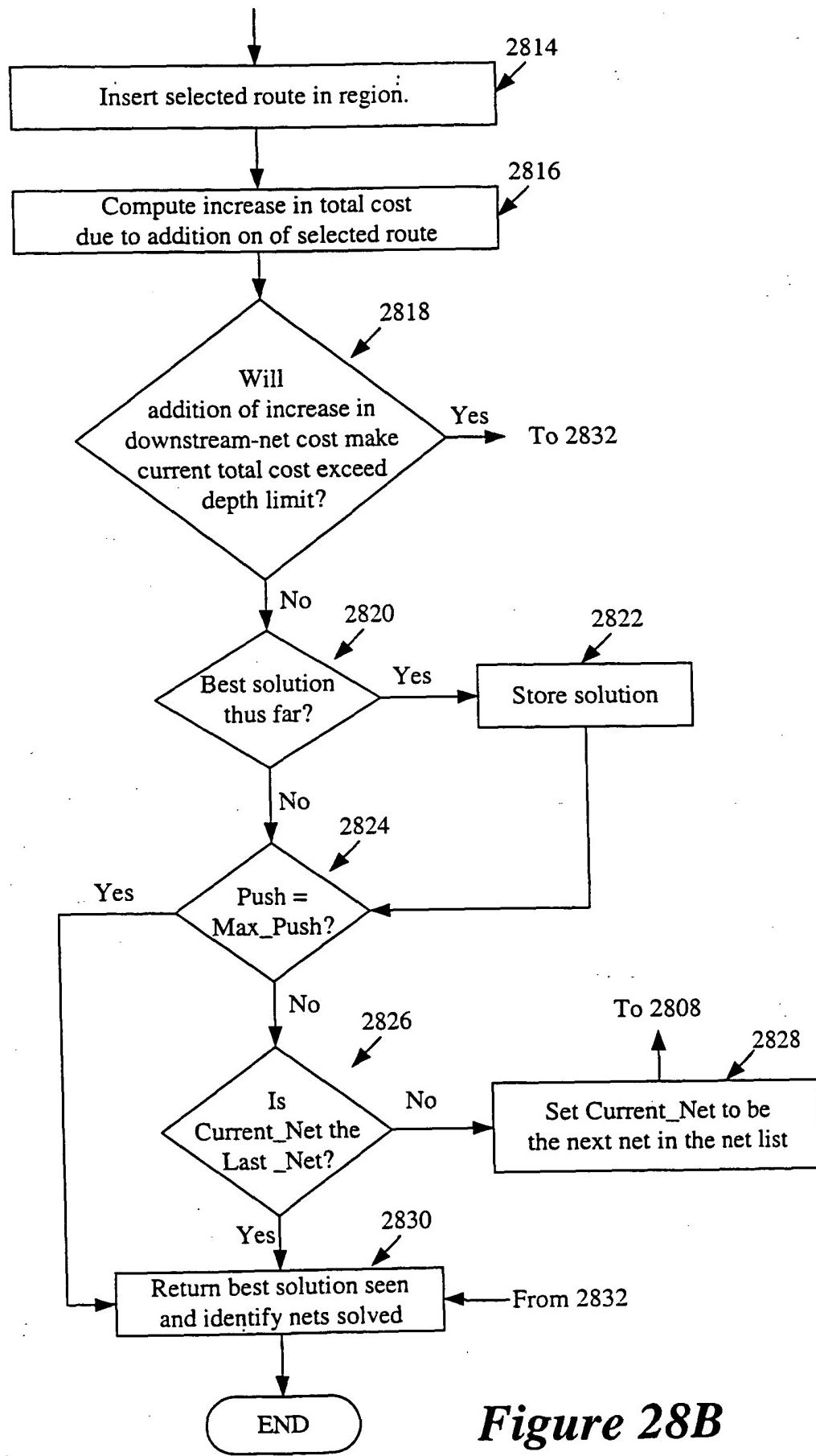


Figure 27

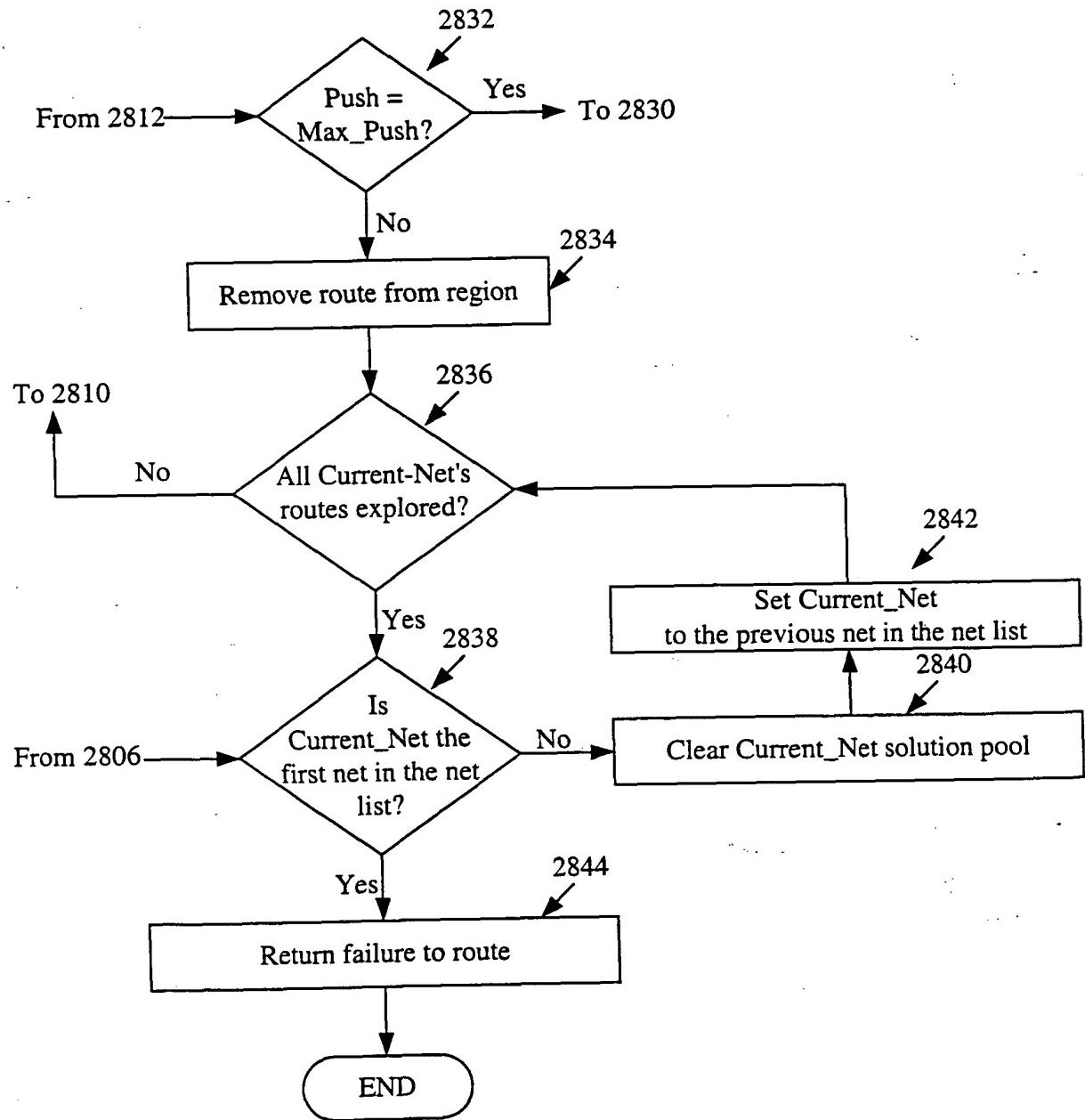


*Figure 28A*

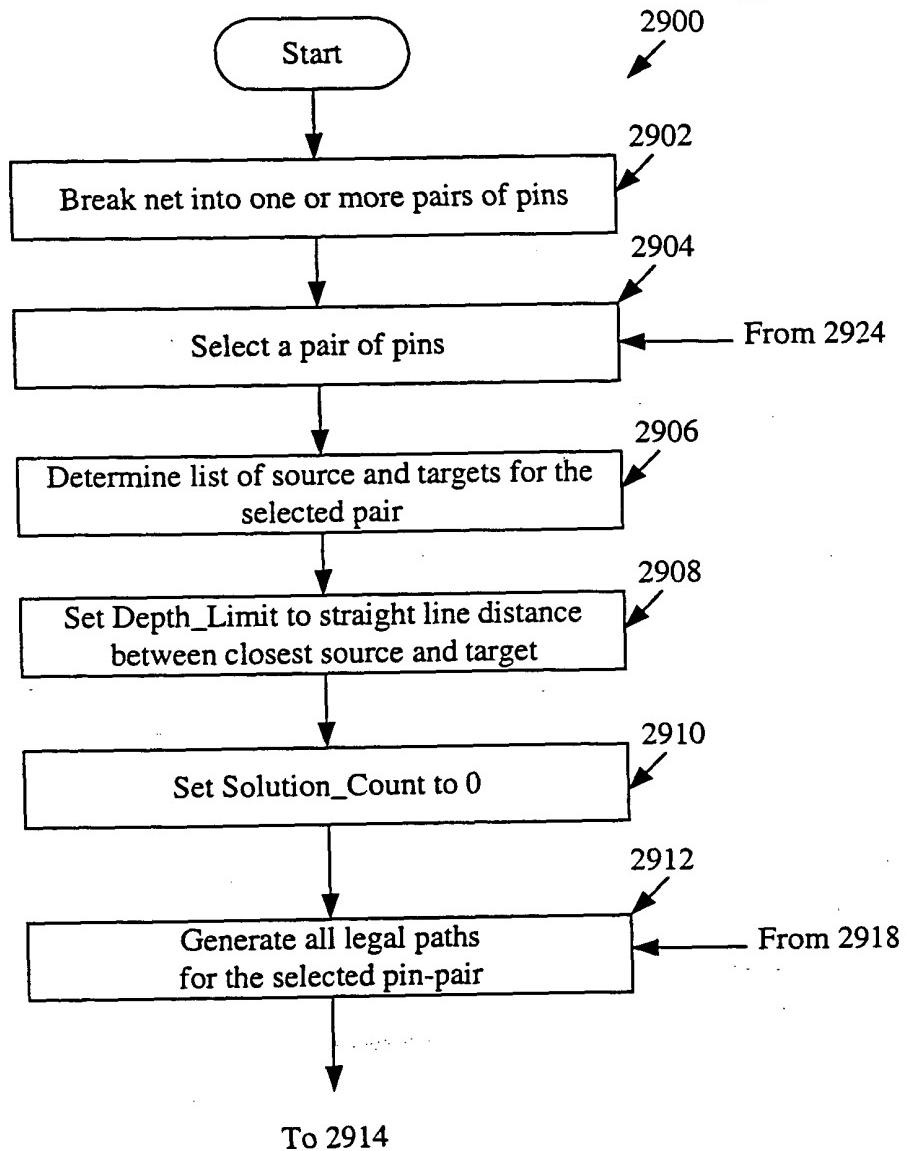
*Figure 28:* *Figure 28A*  
*Figure 28B*  
*Figure 28C*



**Figure 28B**

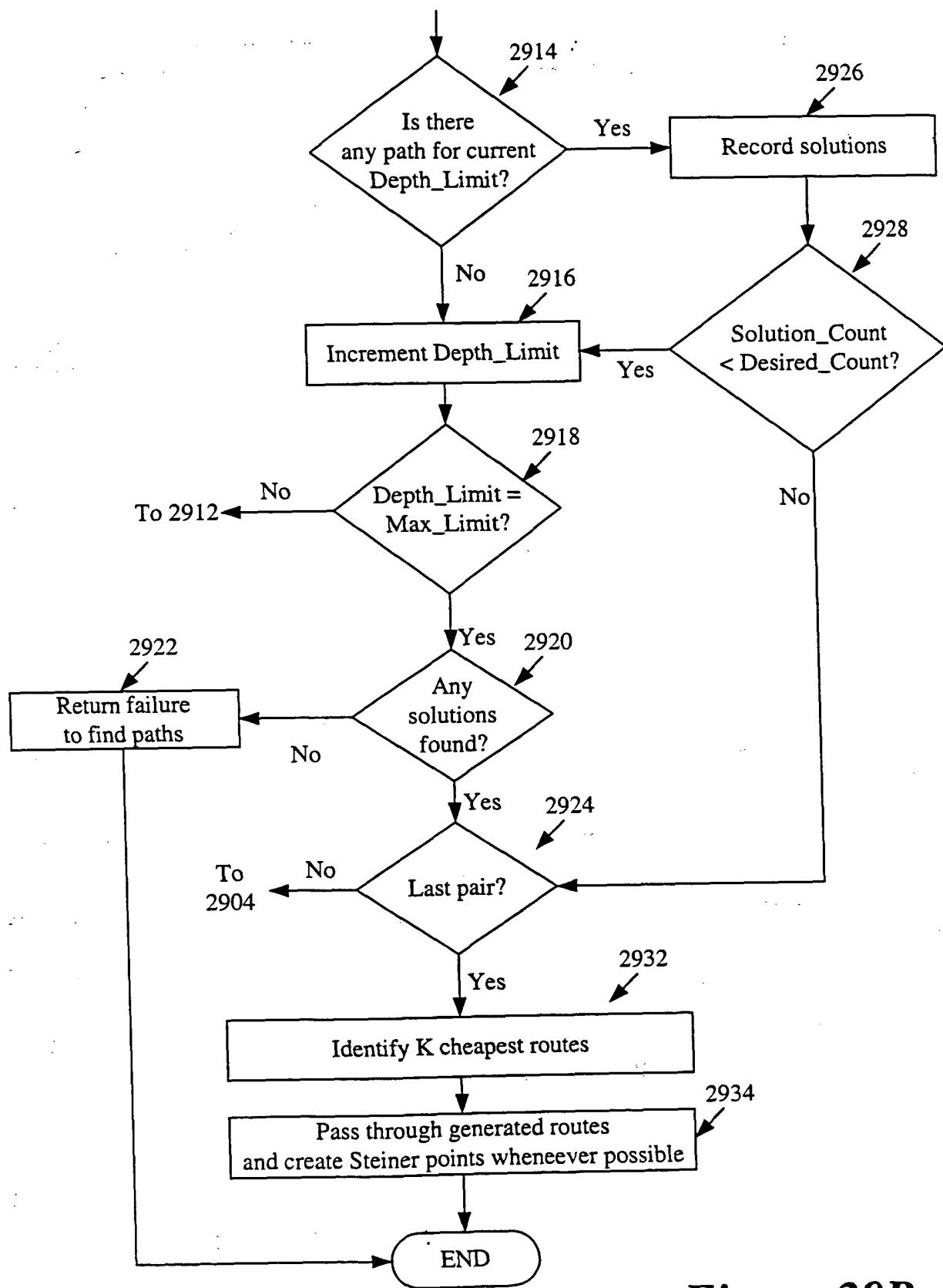


*Figure 28C*



*Figure 29A*

*Figure 29: Figure 29A  
Figure 29B*

*Figure 29B*

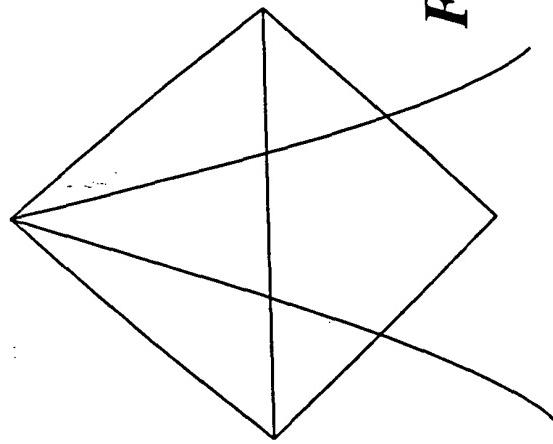


Figure 30A

Figure 30B

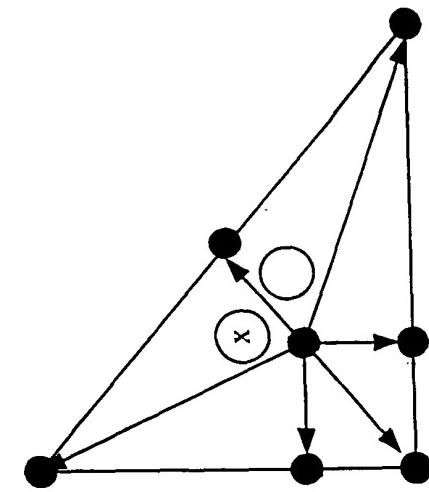
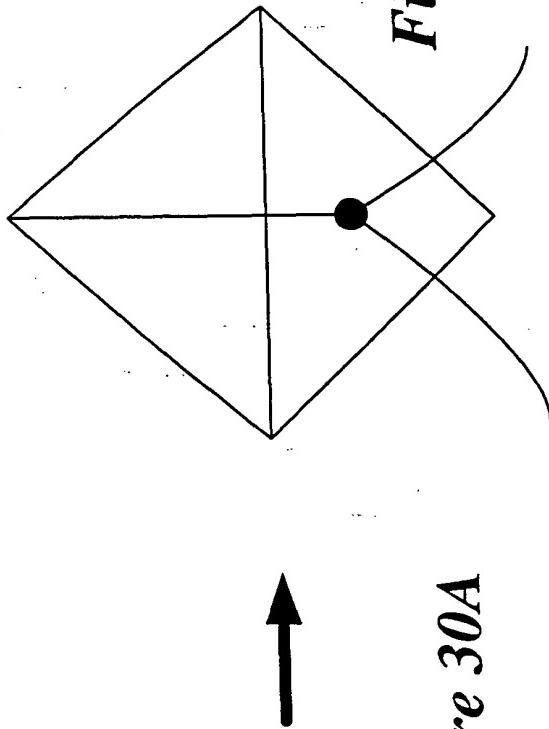


Figure 32

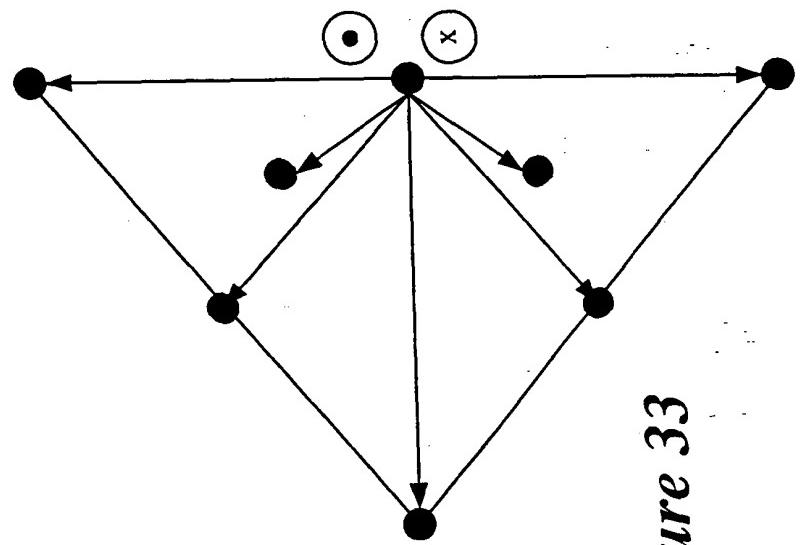


Figure 33

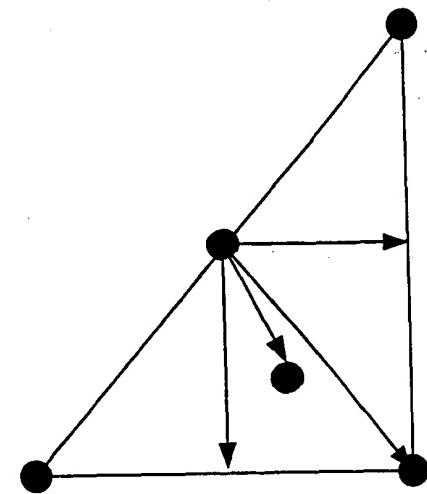
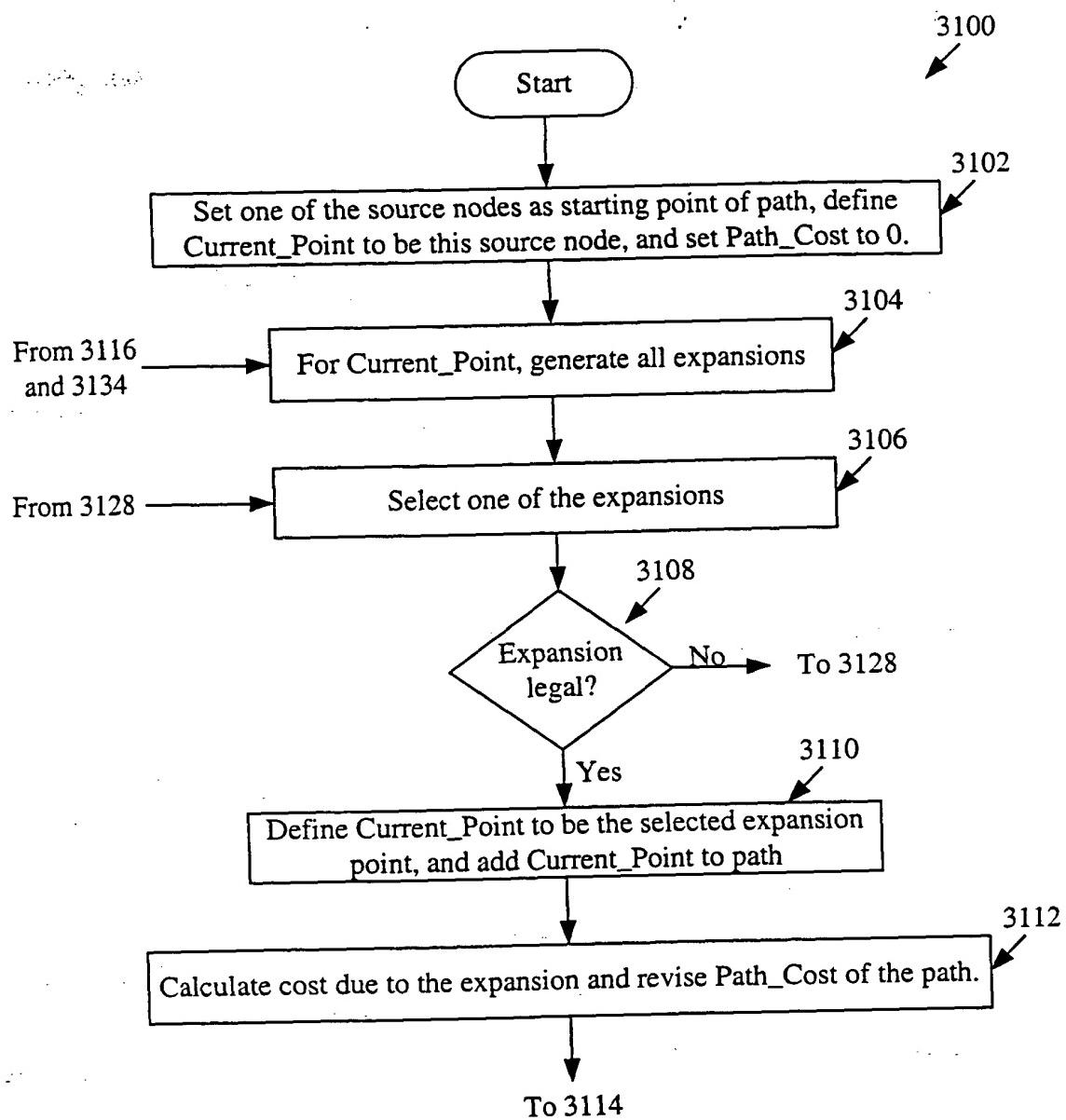
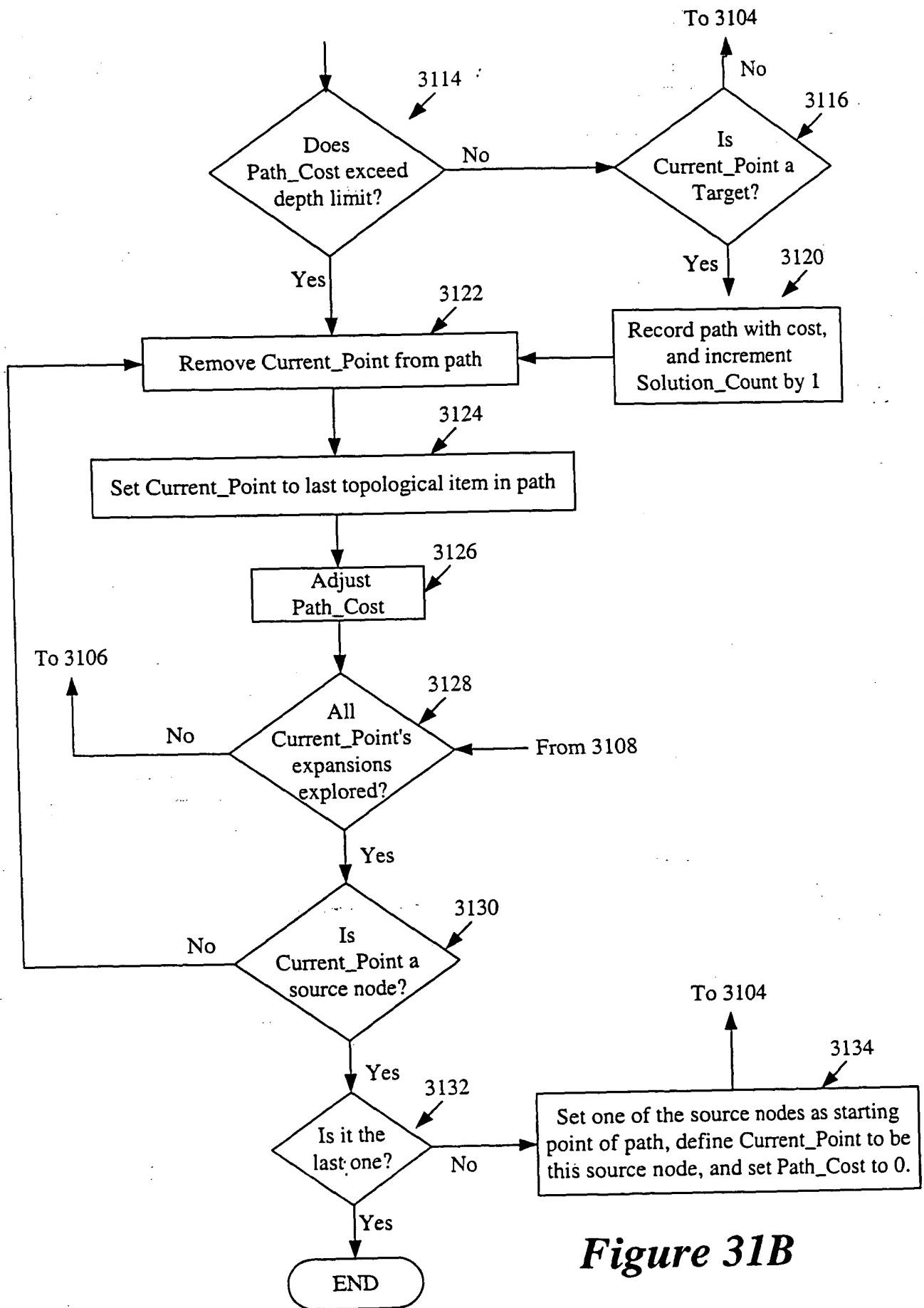


Figure 34



*Figure 31A*

*Figure 31: Figure 31A  
Figure 31B*



**Figure 31B**

Figure 38A

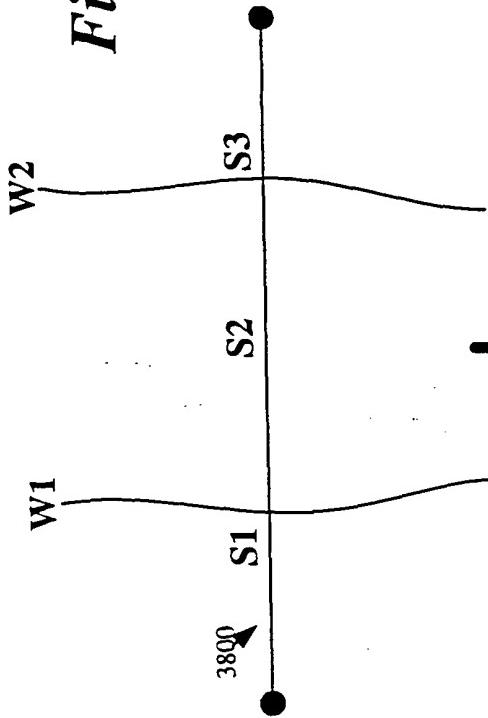


Figure 35

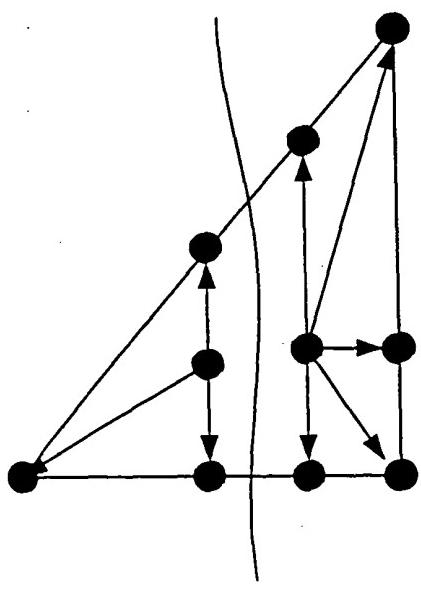


Figure 38B

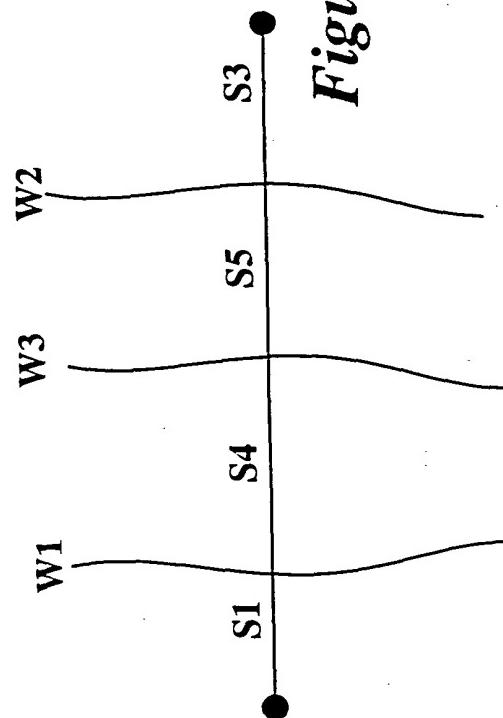
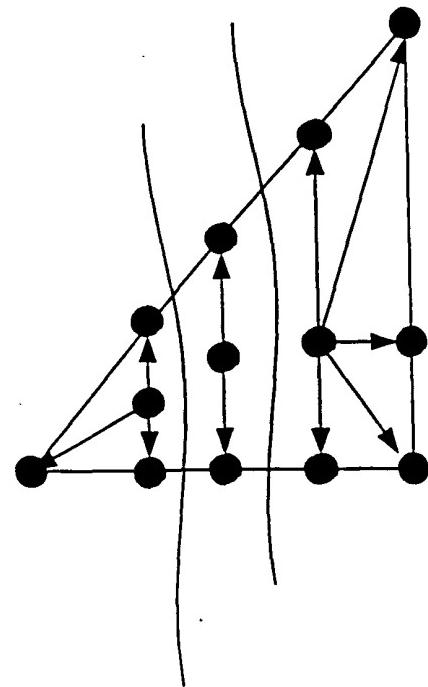


Figure 36



From:	To:	Node	Face Item	Edge Item
Node				
Face Item				
Edge Item				

**From:**

- Planarity
- Vias

**To:**

- Planarity
- Vias

**Node**

- Vias

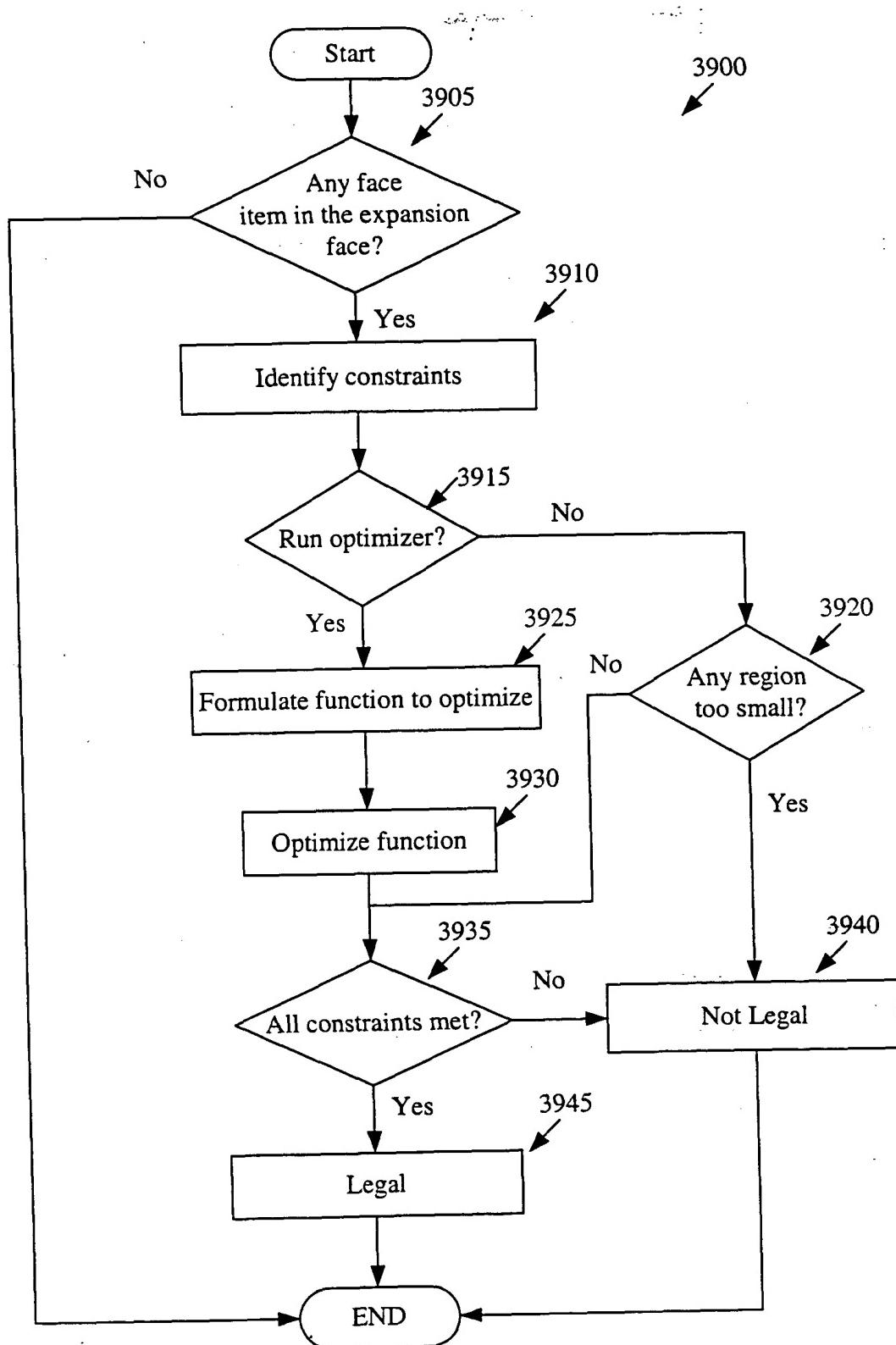
**Face Item**

- Vias

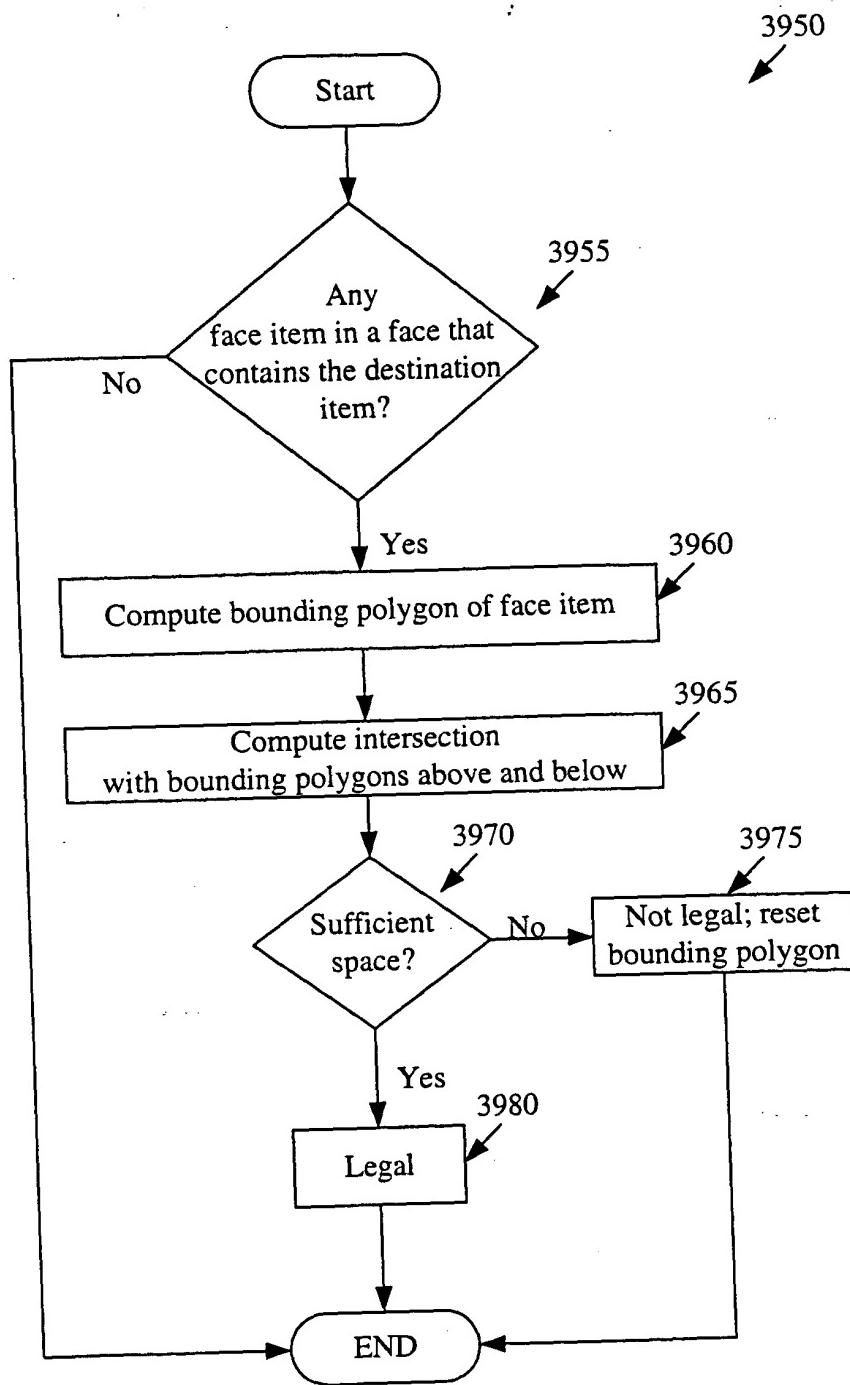
**Edge Item**

- Planarity
- Vias
- Edge Capacity

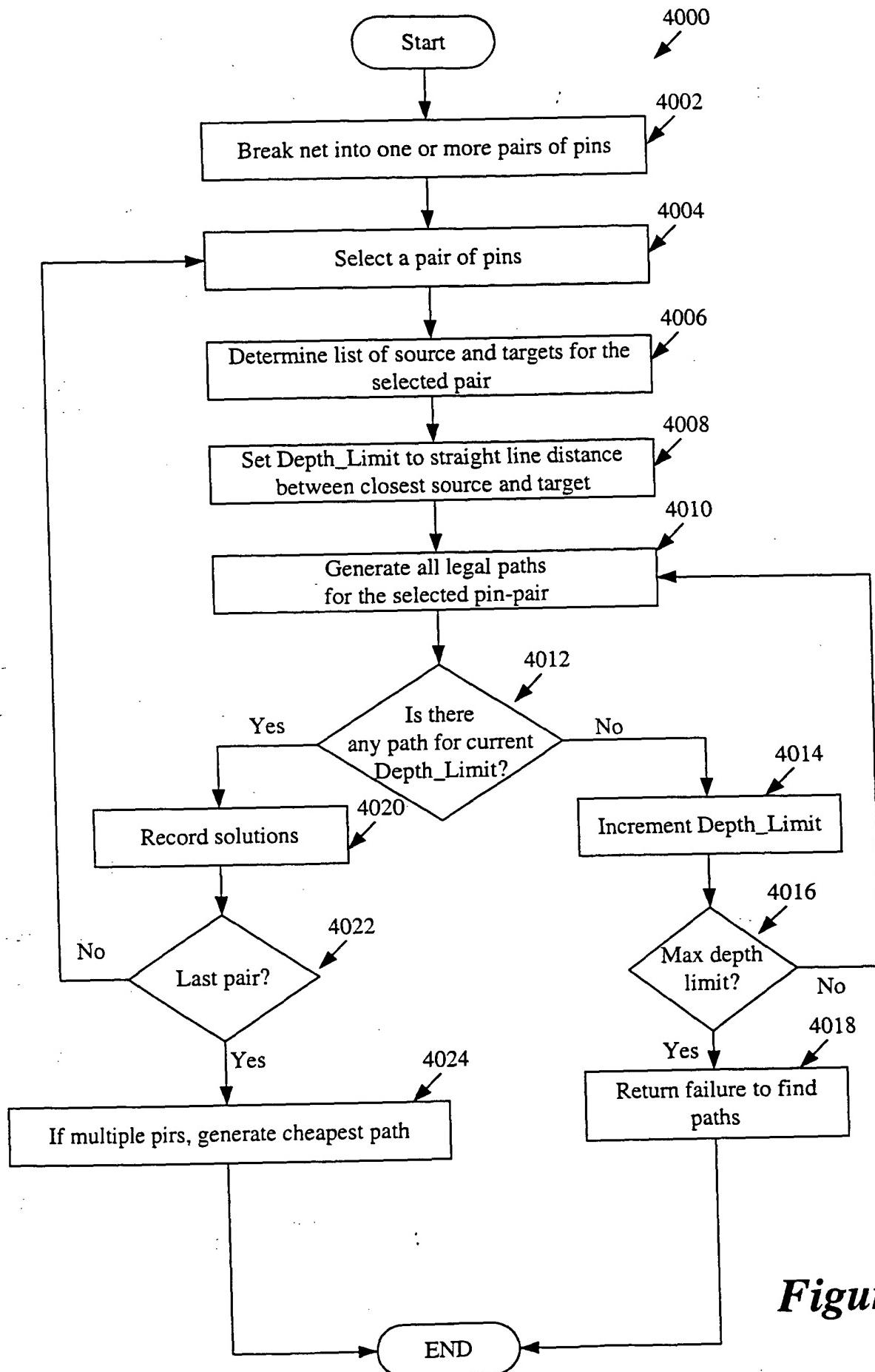
Figure 37

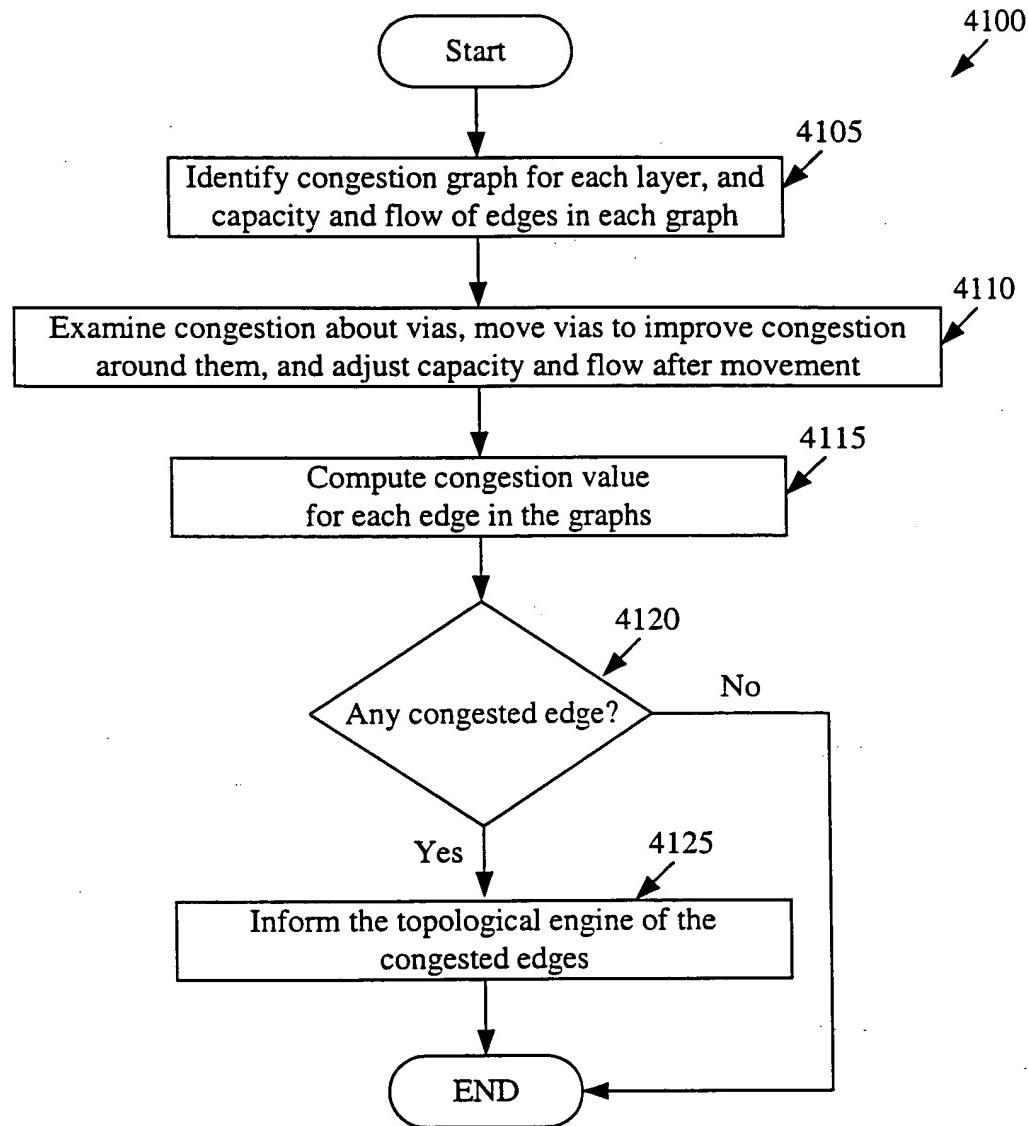


*Figure 39A*



**Figure 39B**

*Figure 40*



*Figure 41*

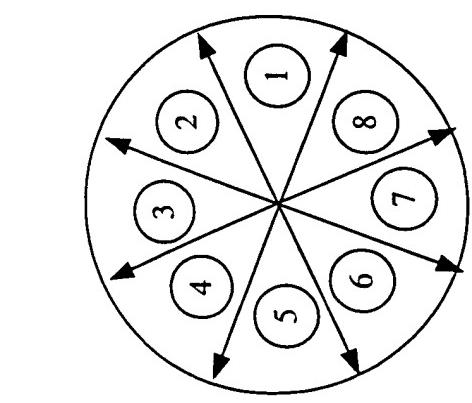


Figure 42

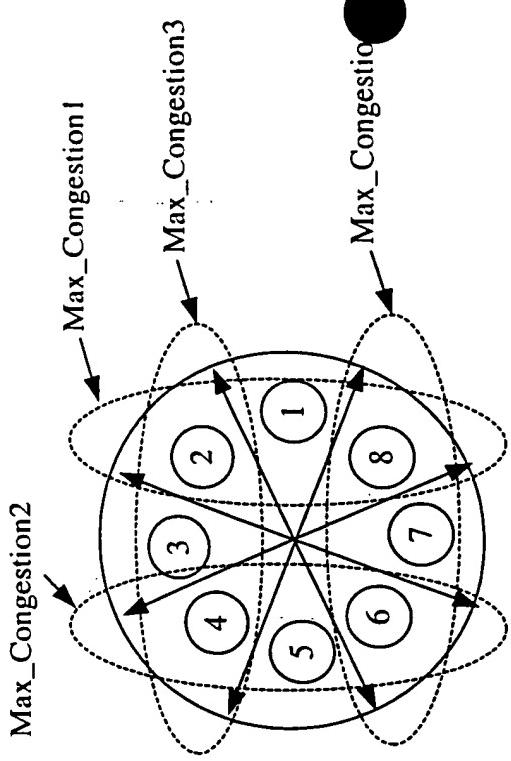


Figure 43

Figure 44

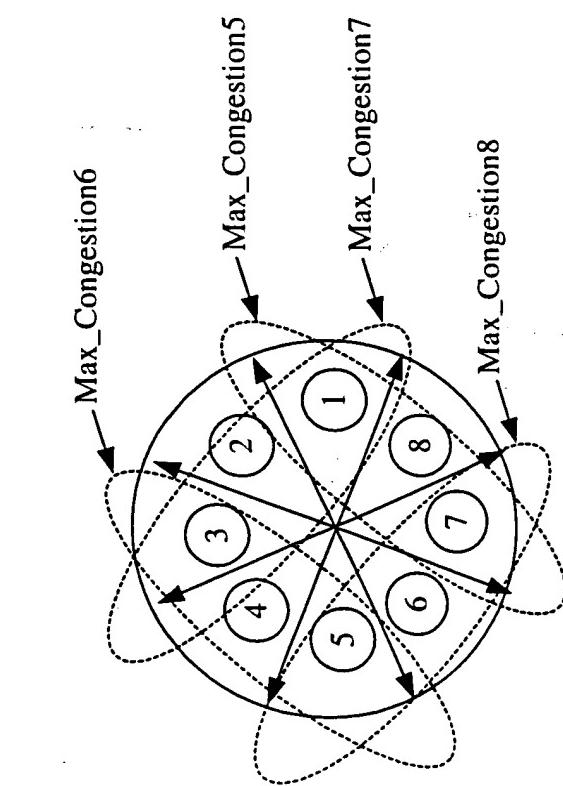


Figure 45

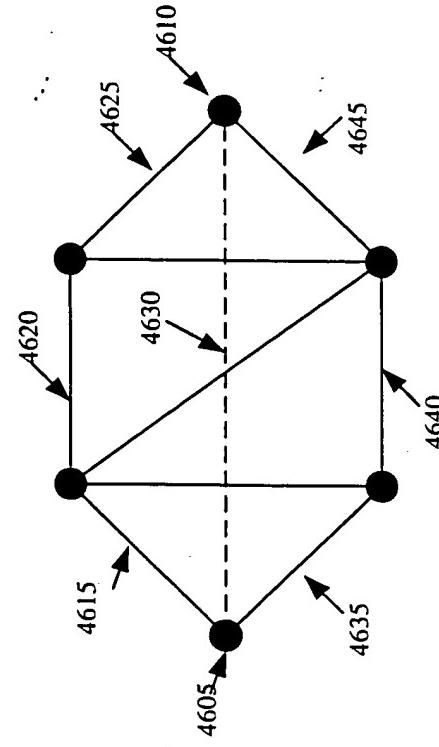


Figure 46

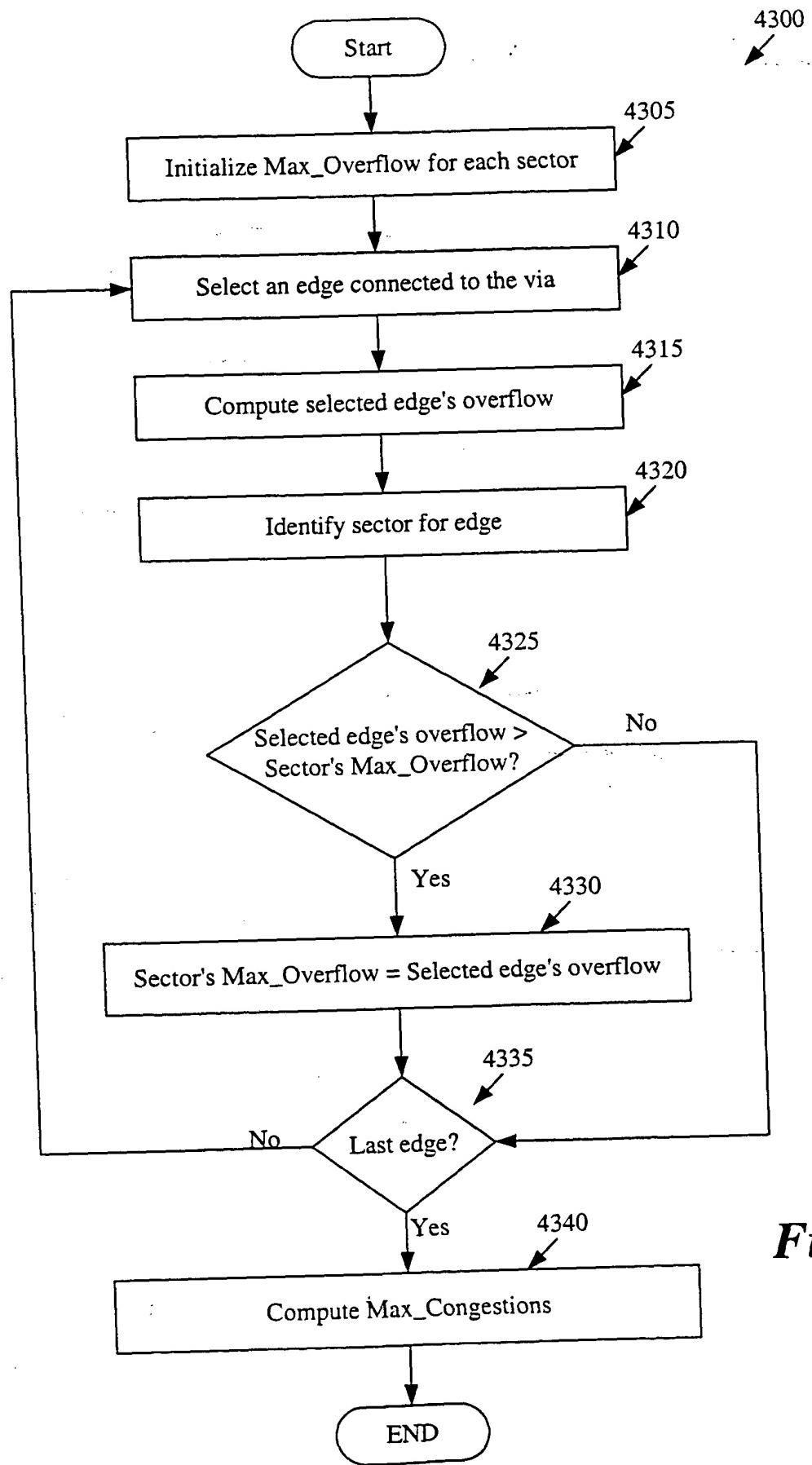


Figure 43

100E 094 x 033102

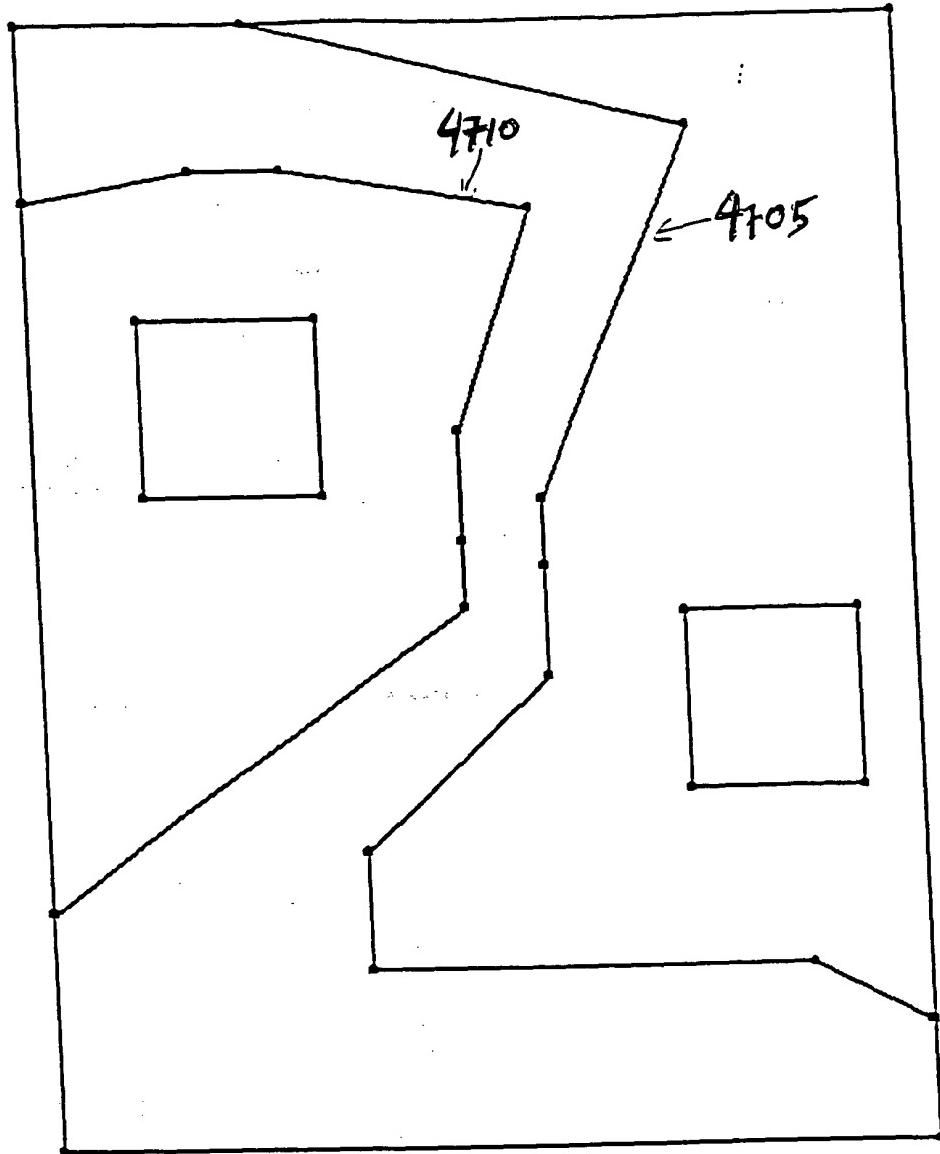


FIGURE 47

1000000000000000

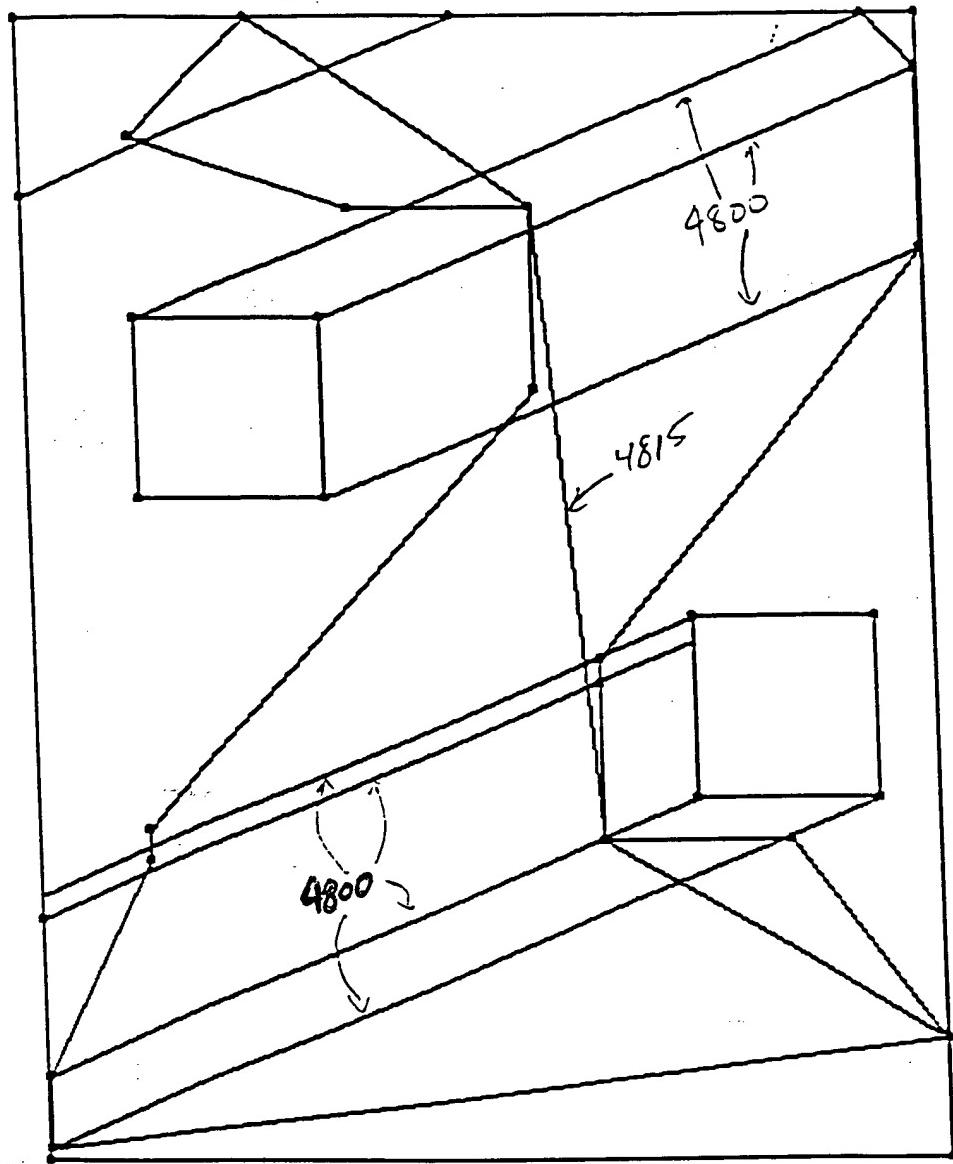


FIGURE 48A

1000 EIGHT, OCT 31 1962

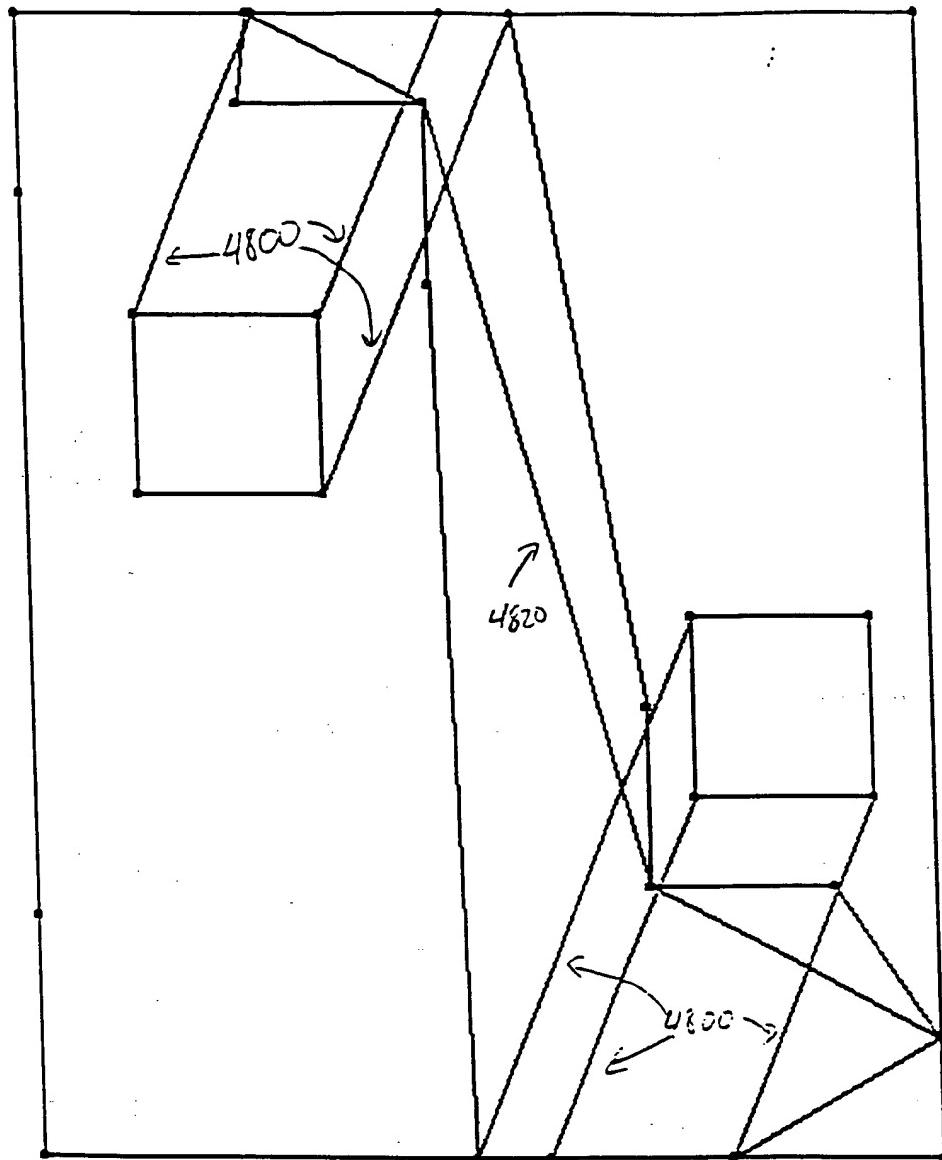


FIGURE 48B

100E 60N 013103

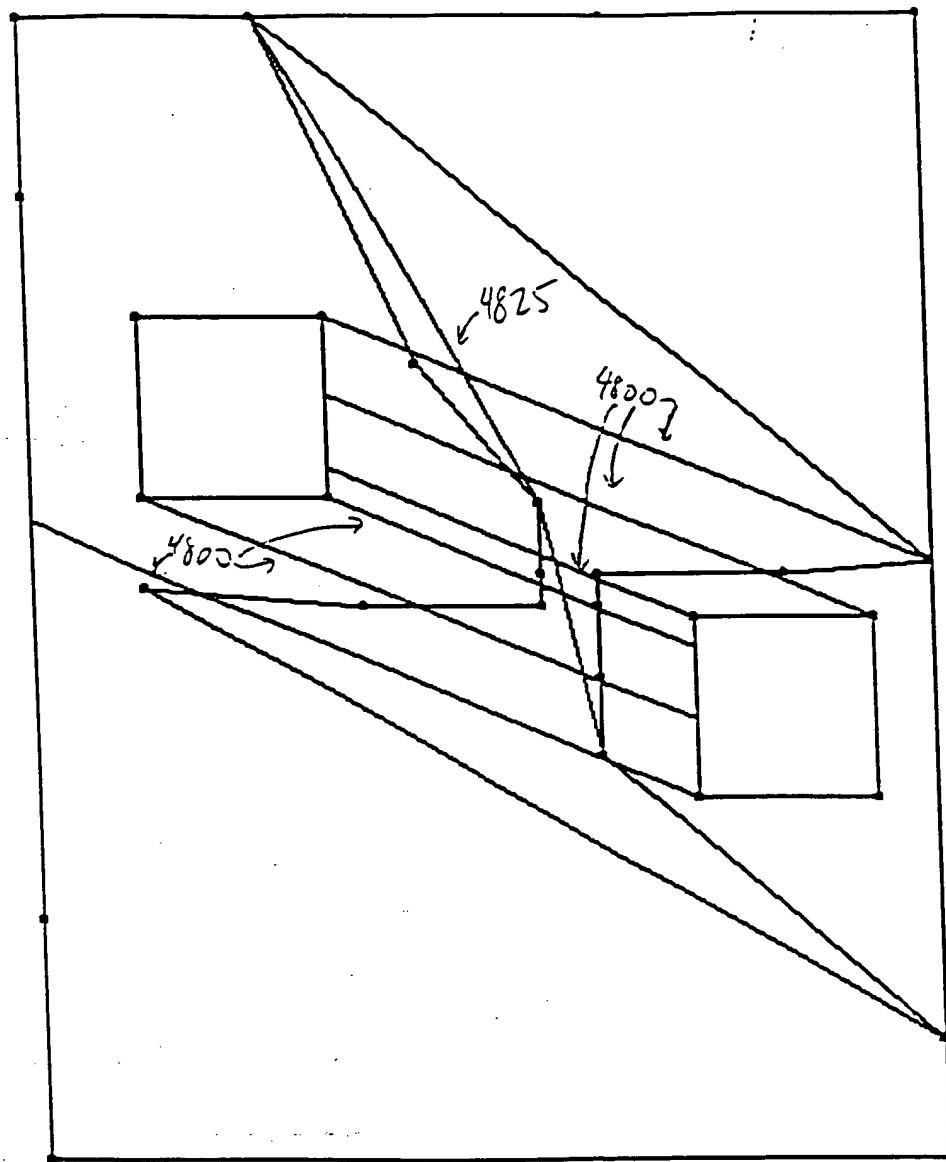


FIGURE 48C

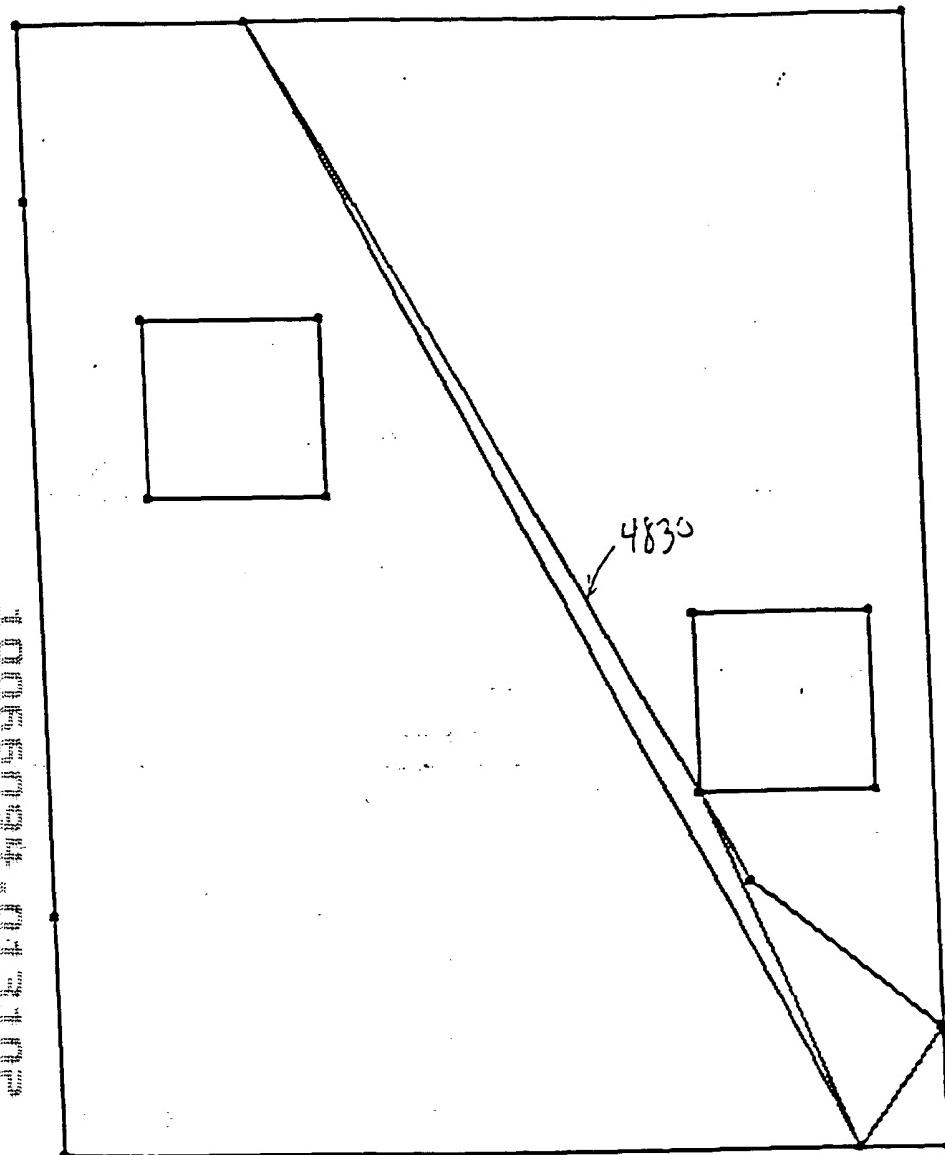


FIGURE 48 D

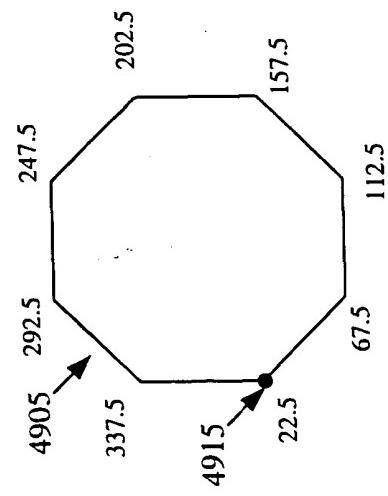


Figure 49A

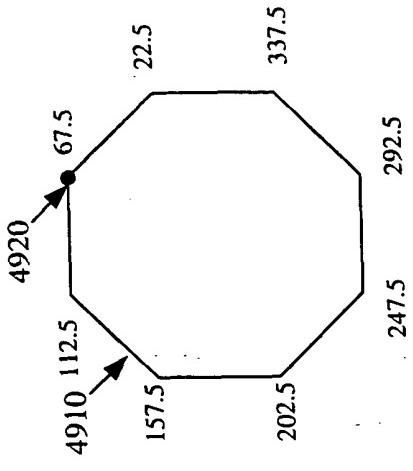


Figure 49B

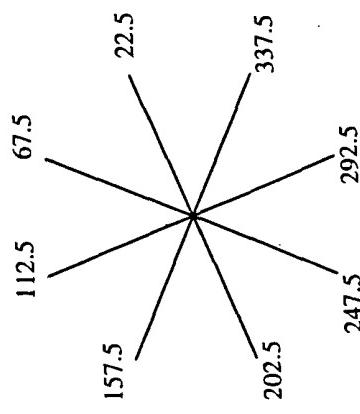


Figure 49C

LOGGED - DATE

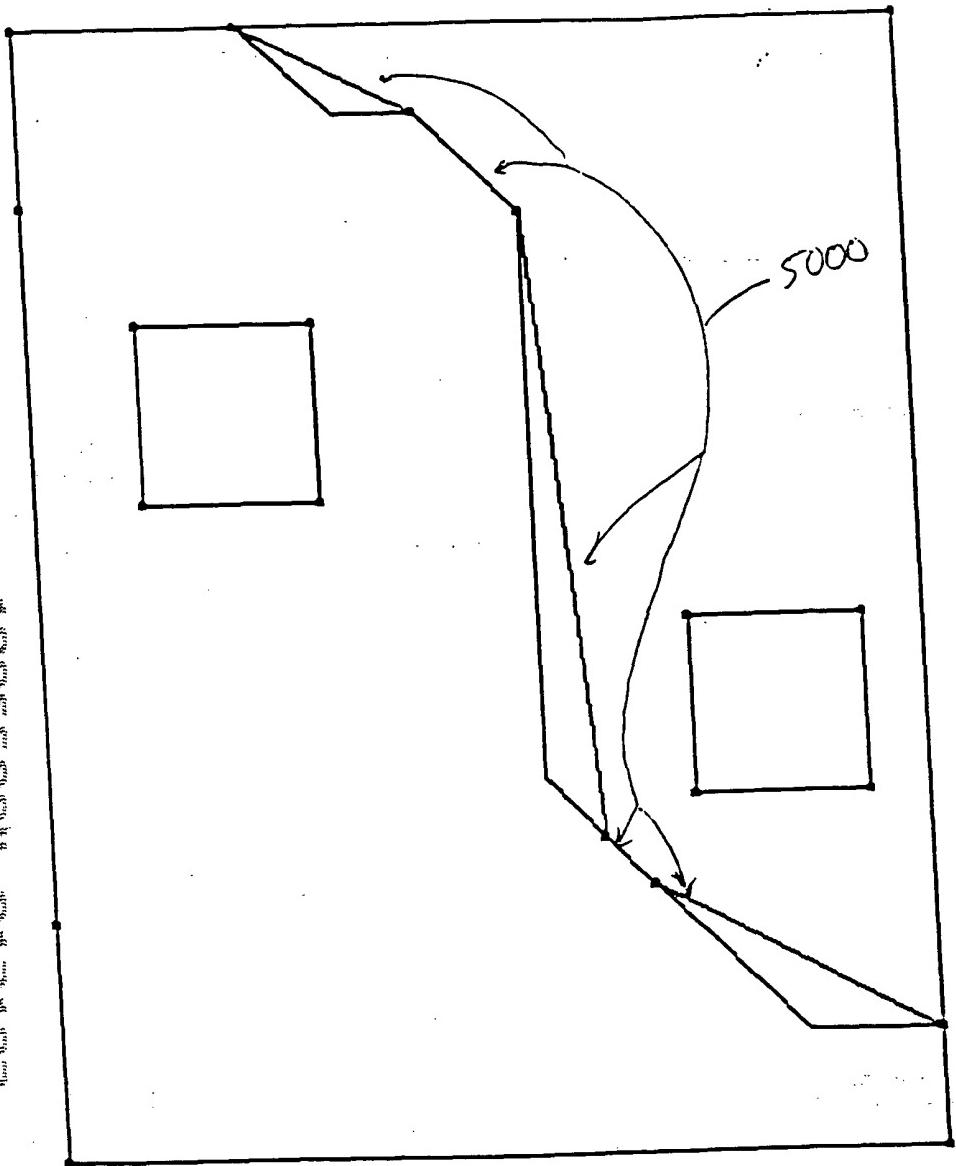
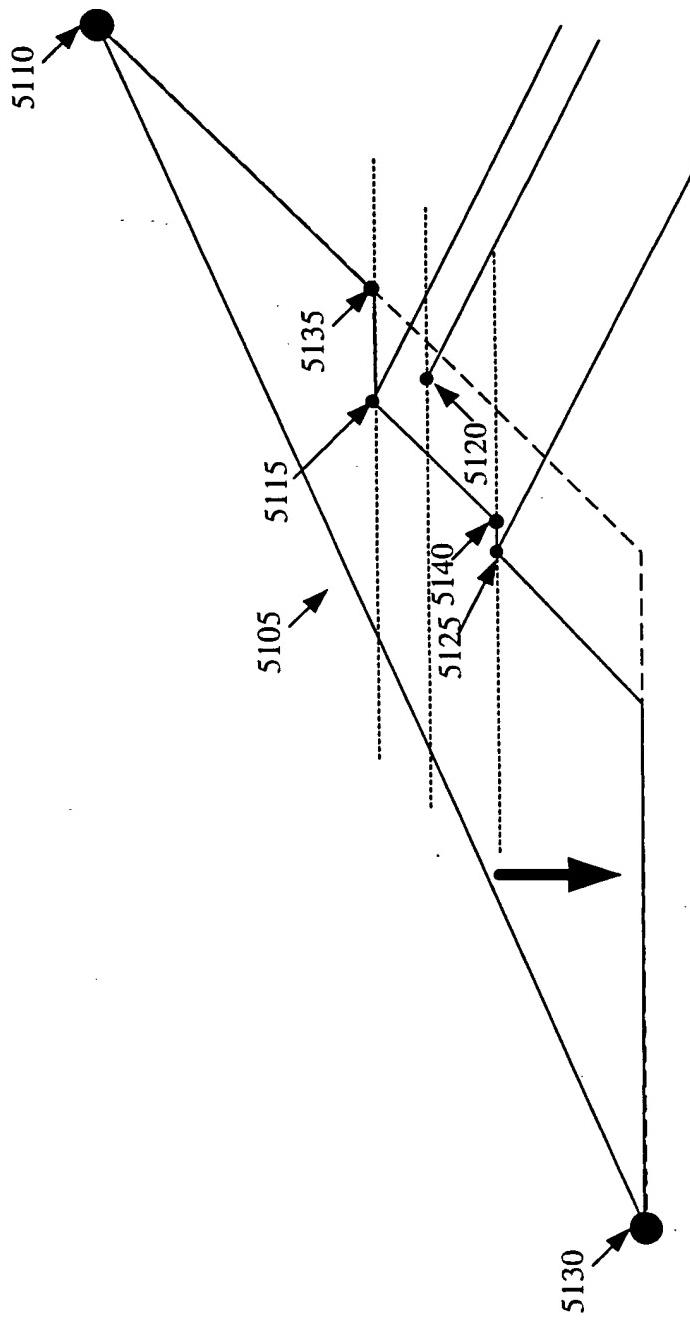


FIGURE 50

*Figure 51*



1000E 500N 45° 04' 34.00

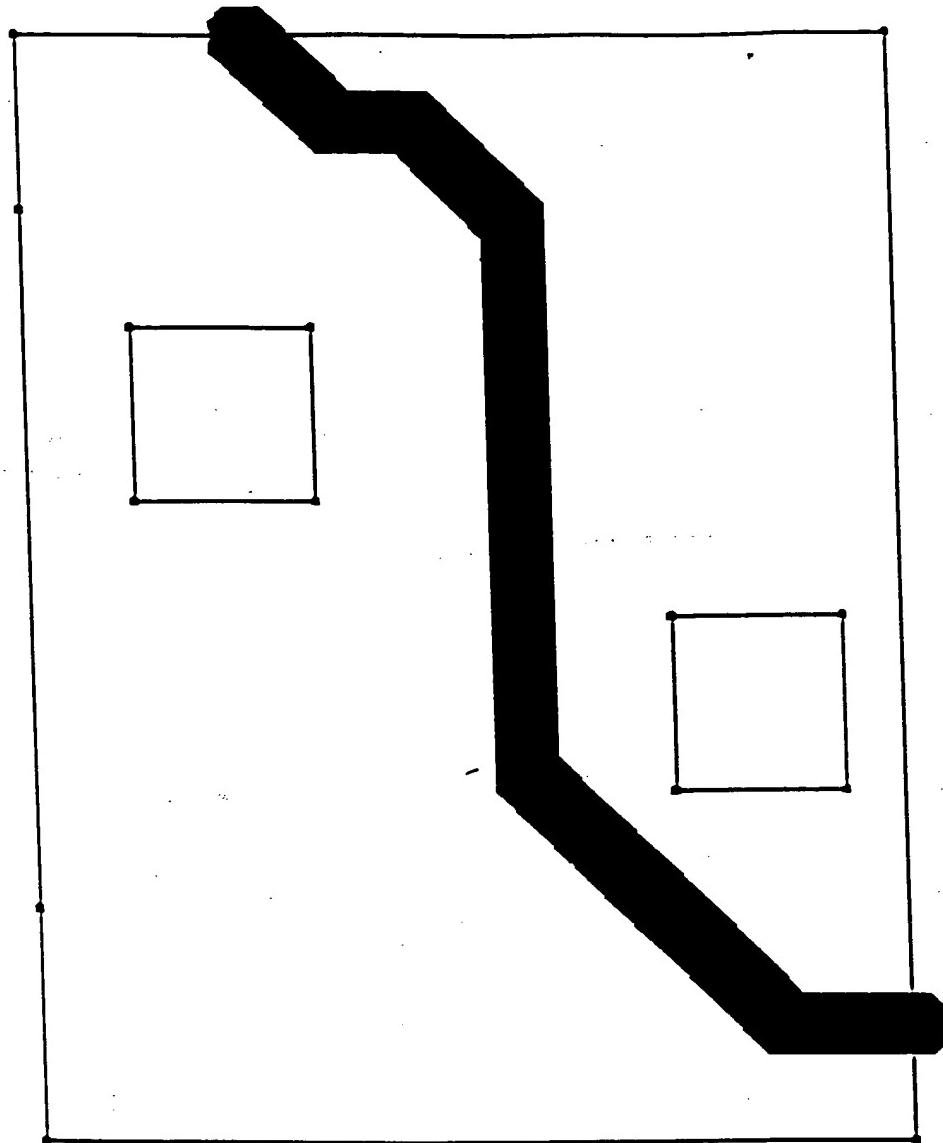
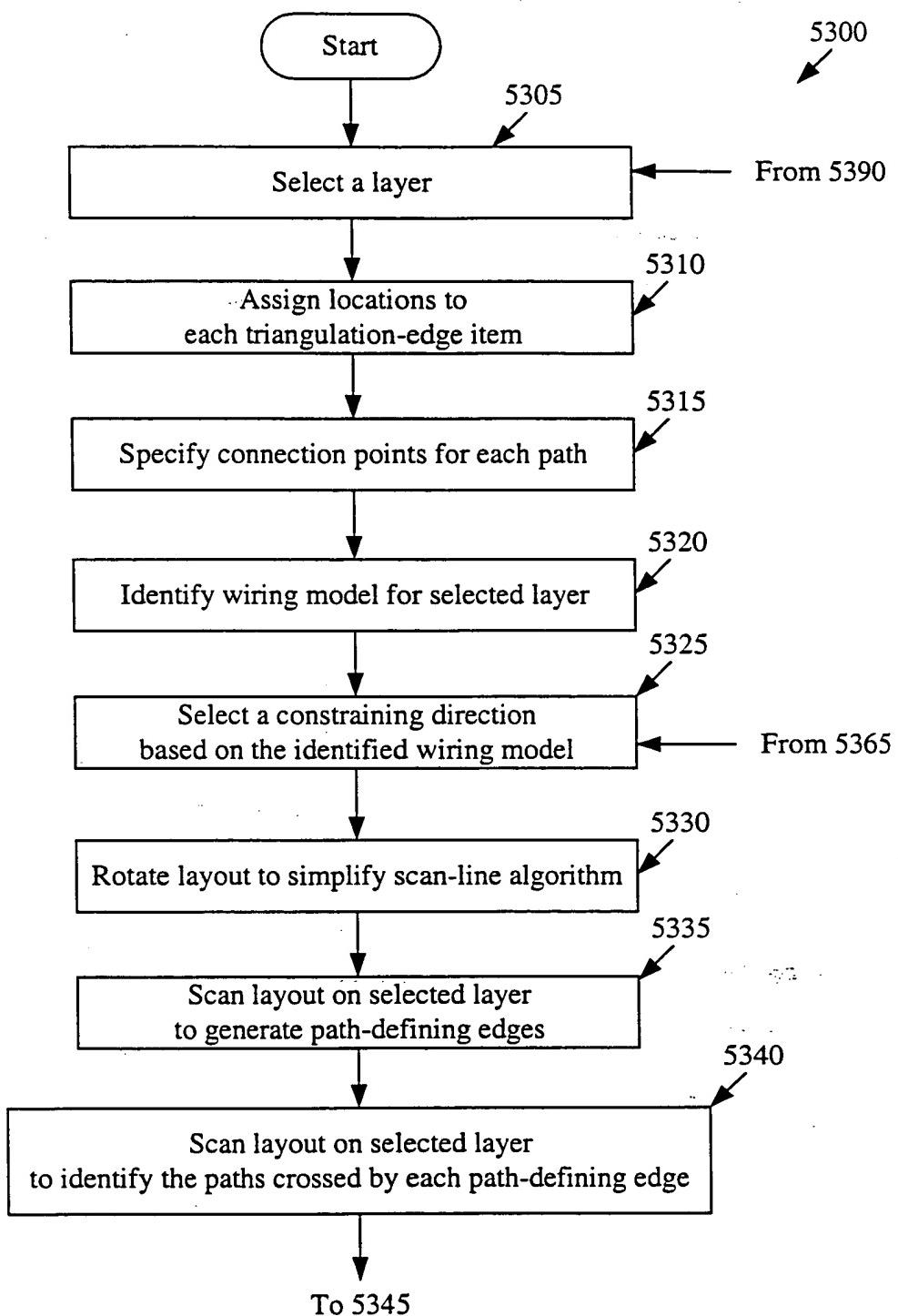
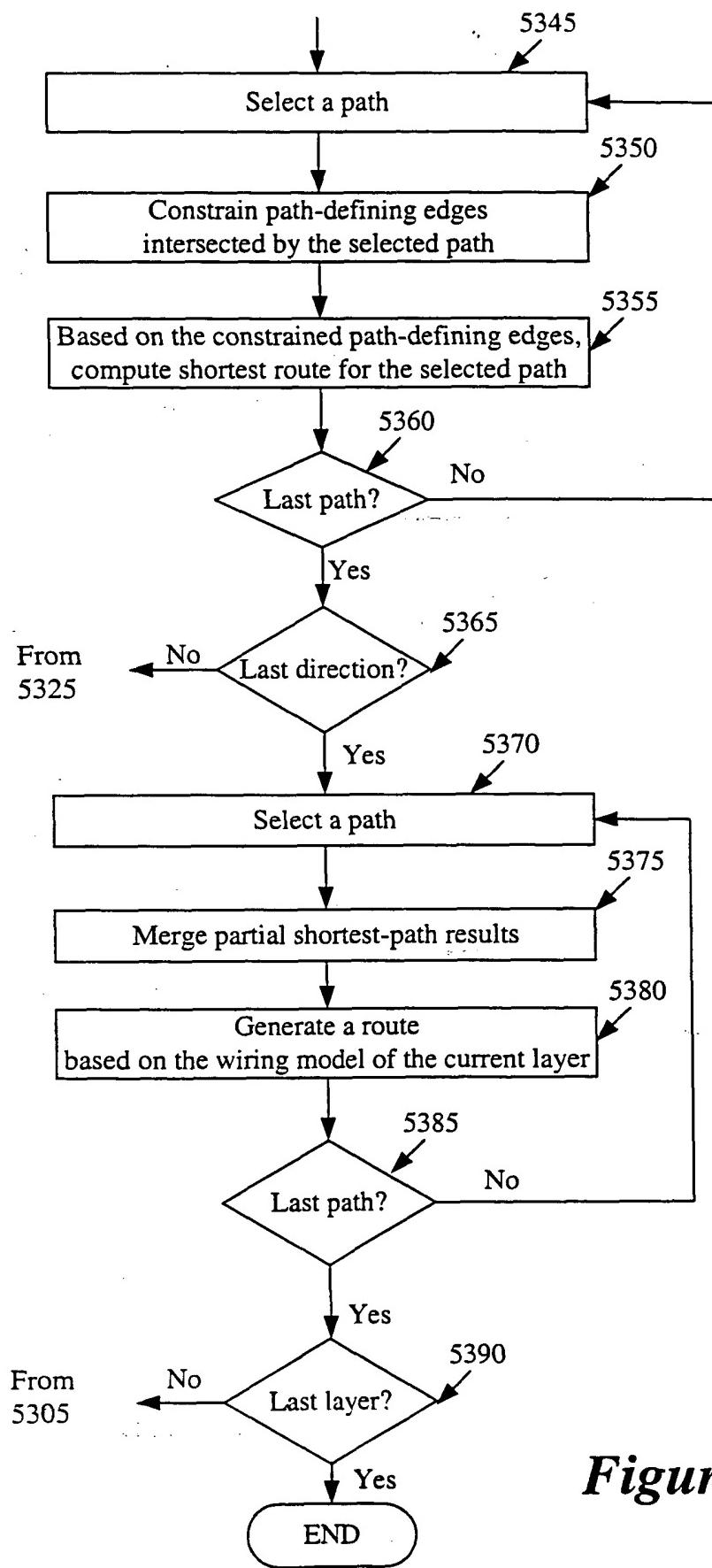


FIGURE 52

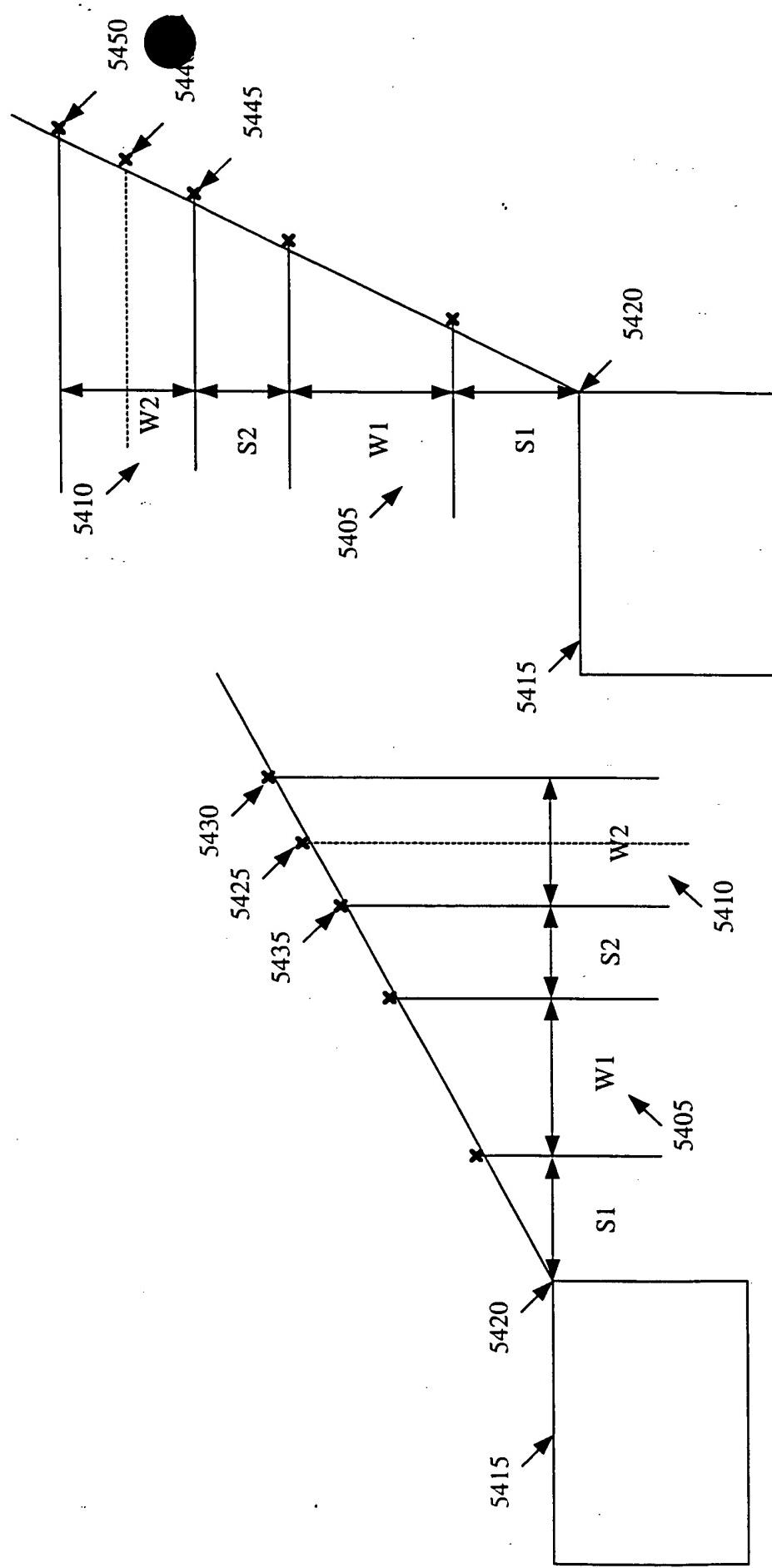


*Figure 53*

*Figure 53:* — *Figure 53A*  
— *Figure 53B*



**Figure 53B**



*Figure 54*

*Figure 55*

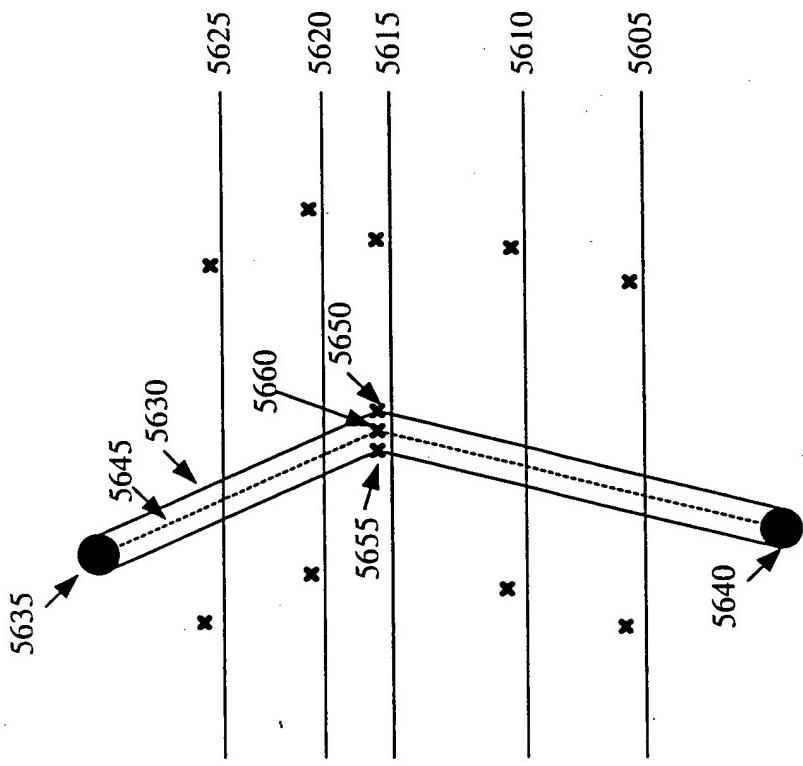


Figure 56

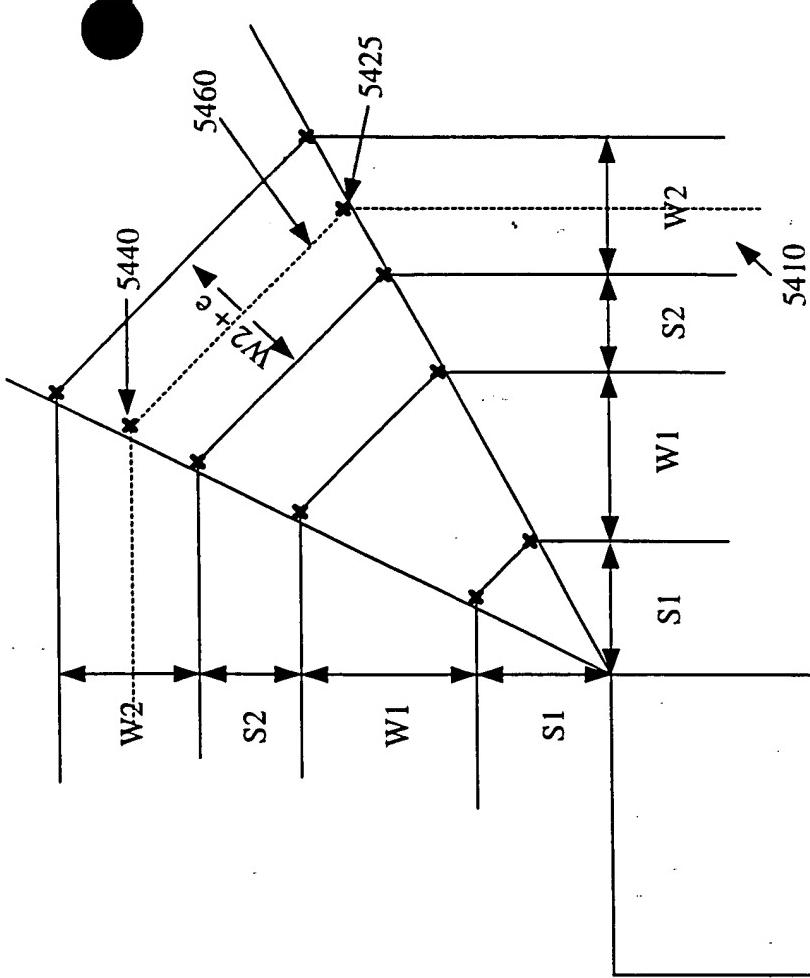


Figure 57

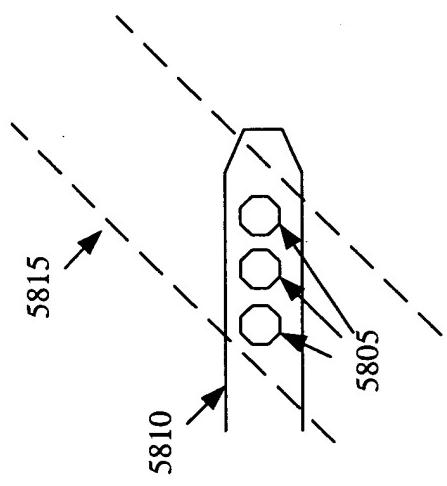


Figure 58

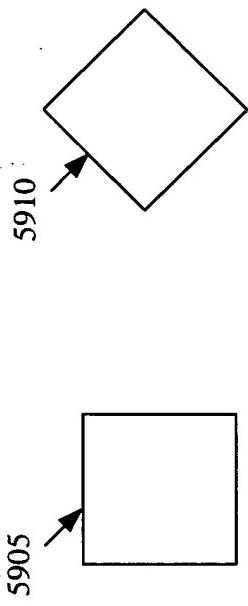


Figure 59

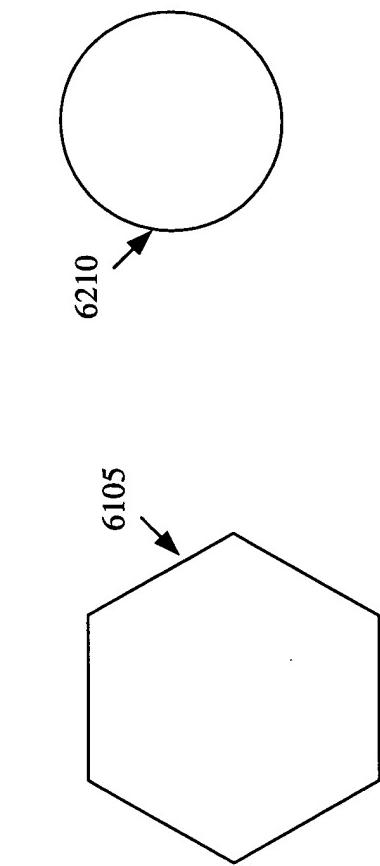


Figure 62

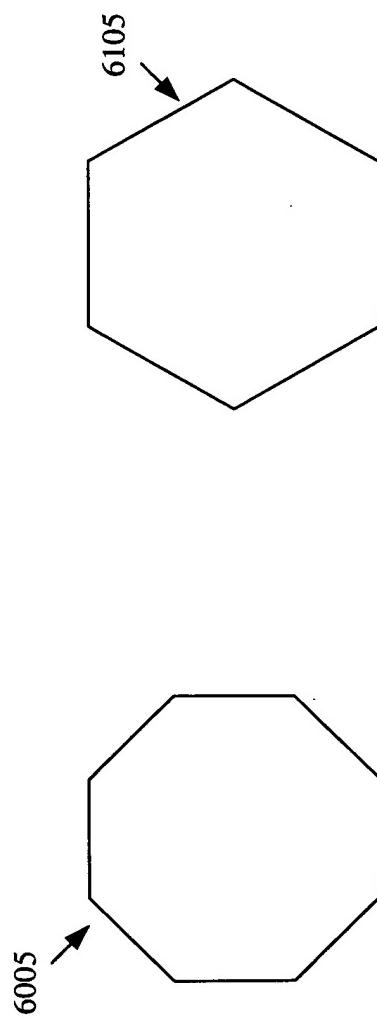


Figure 61

Figure 60

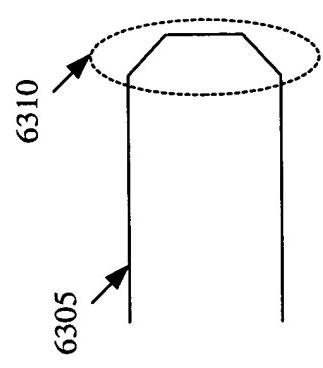


Figure 63

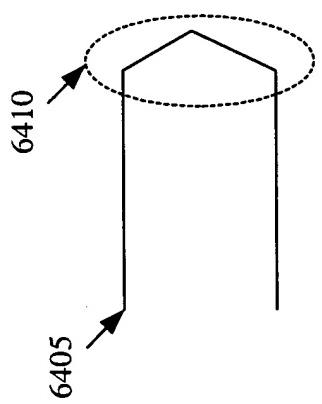


Figure 64

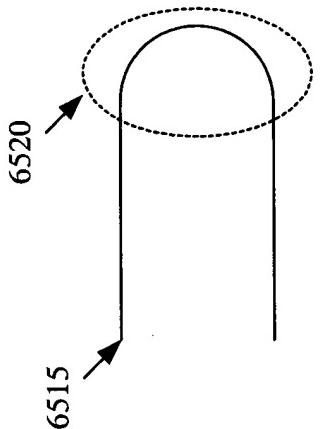
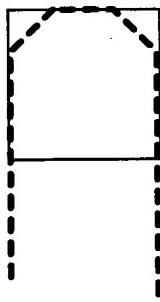
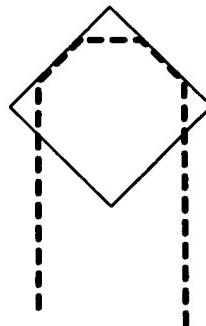


Figure 65

(1)



(2)



(3)

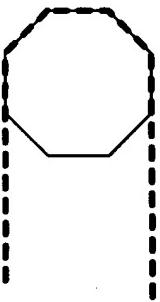


Figure 66



Figure 67

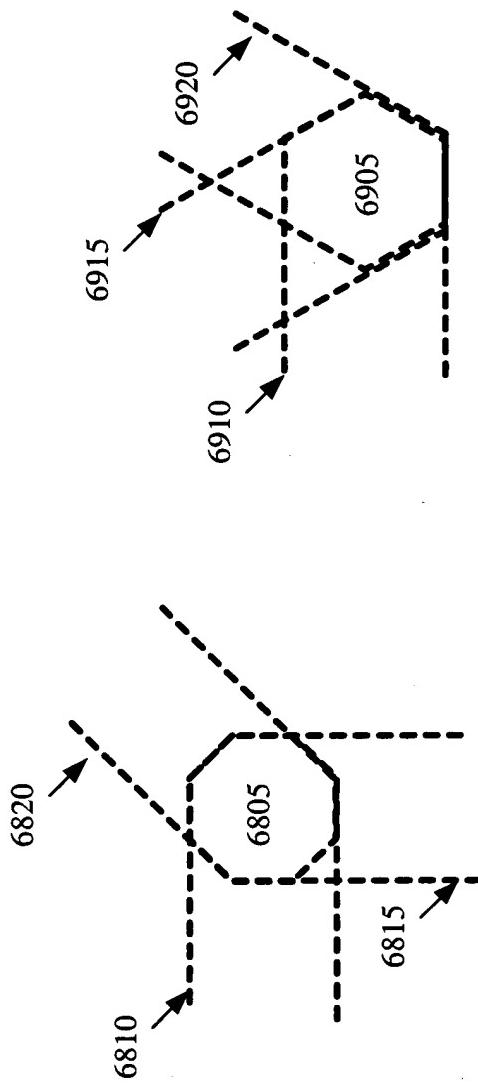
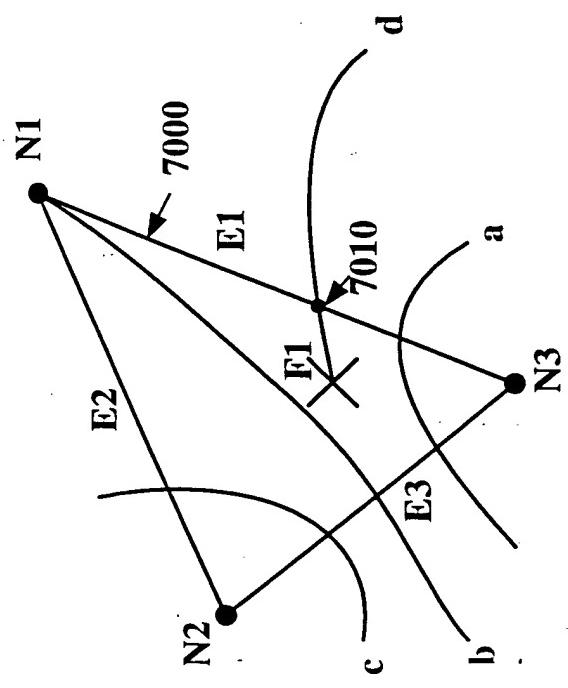
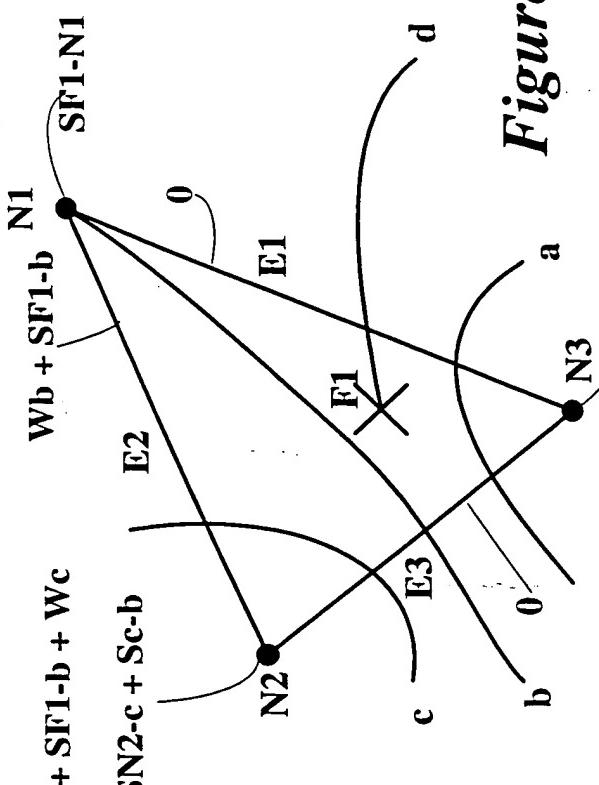


Figure 68

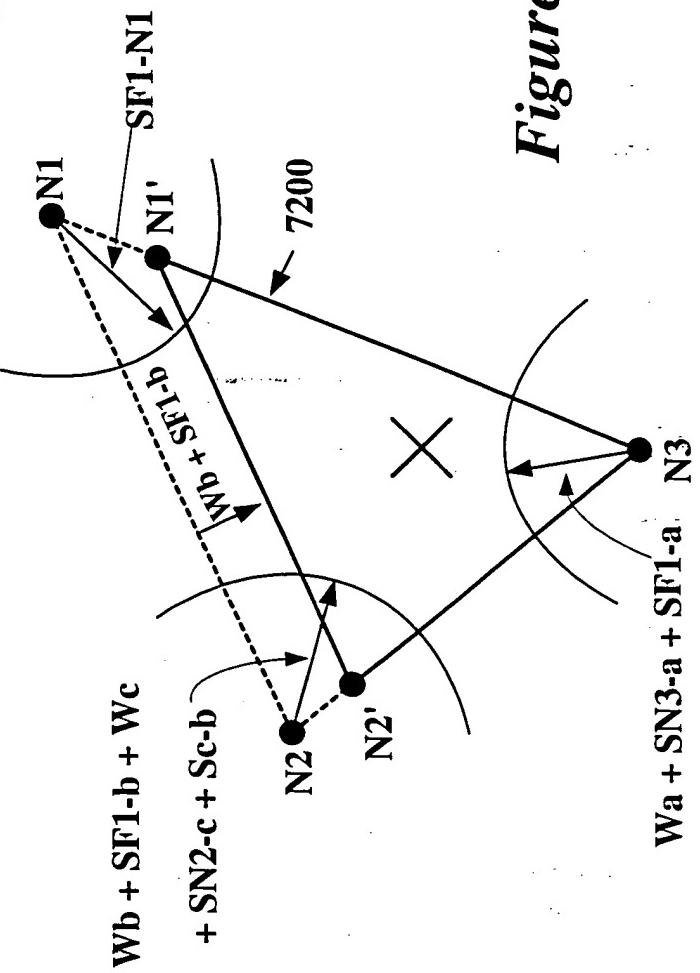
Figure 69



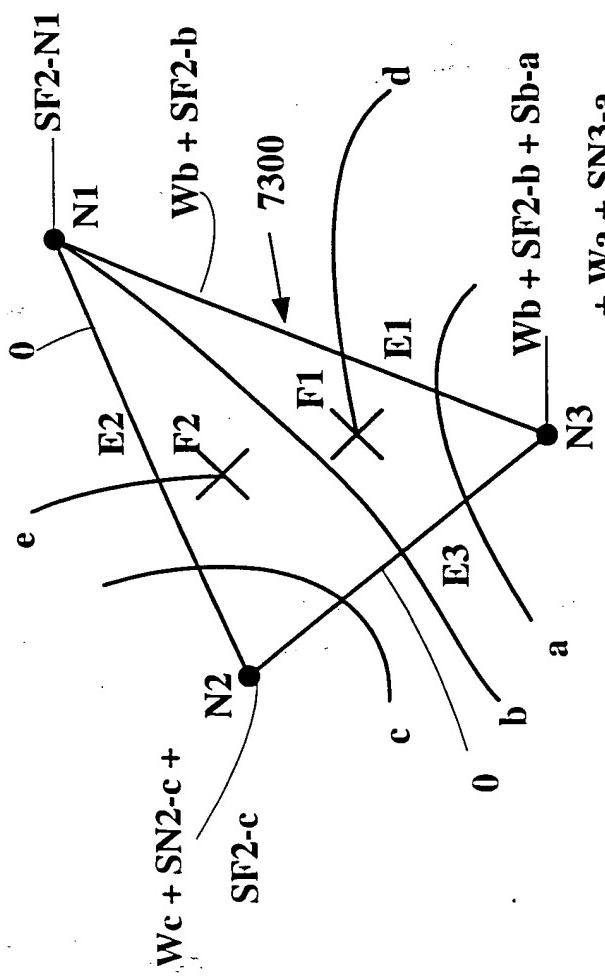
*Figure 70*



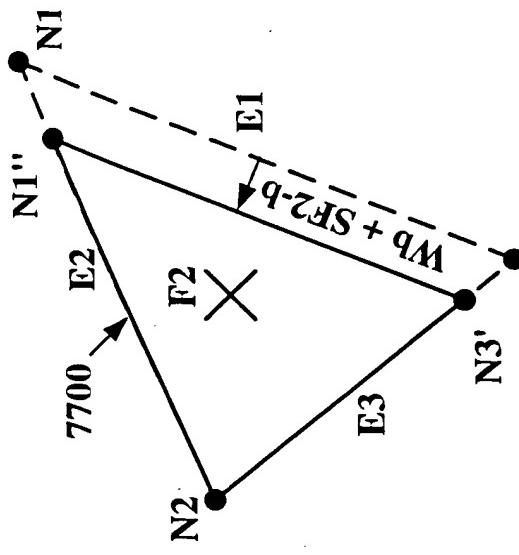
*Figure 71*



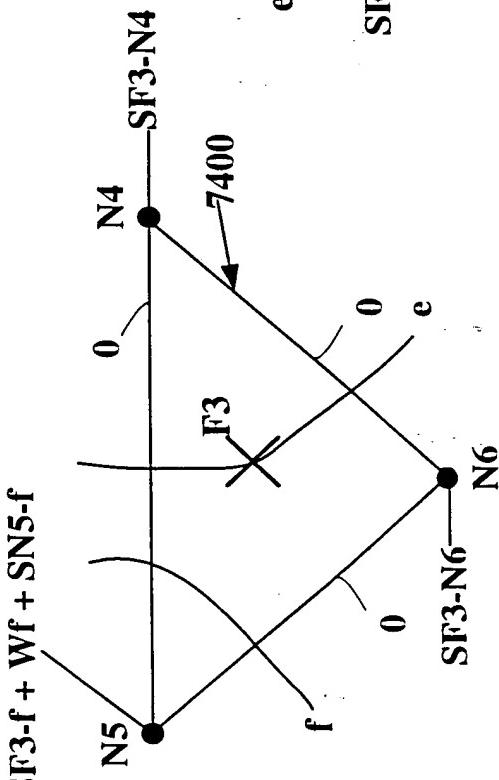
*Figure 72*



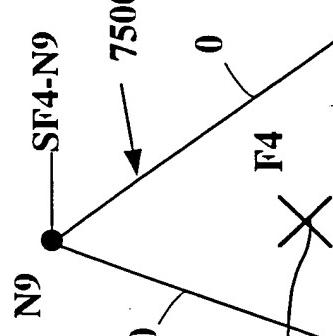
*Figure 73*



*Figure 77*

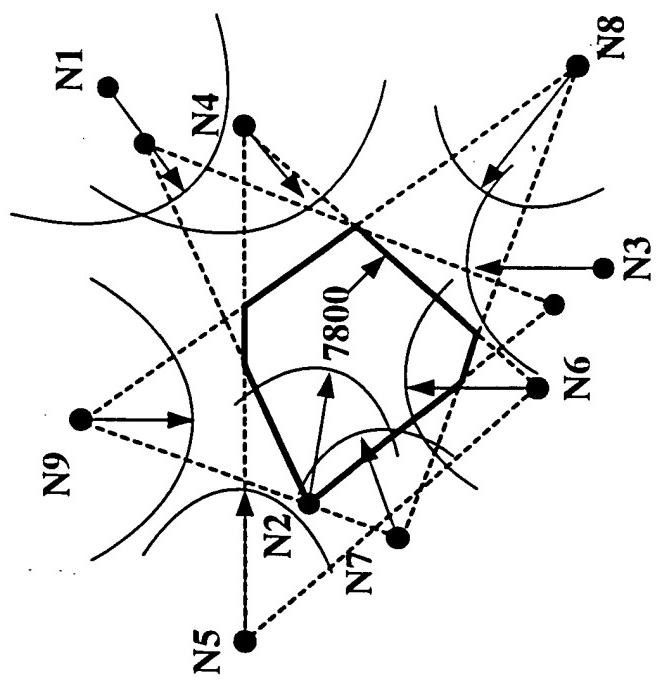


*Figure 74*

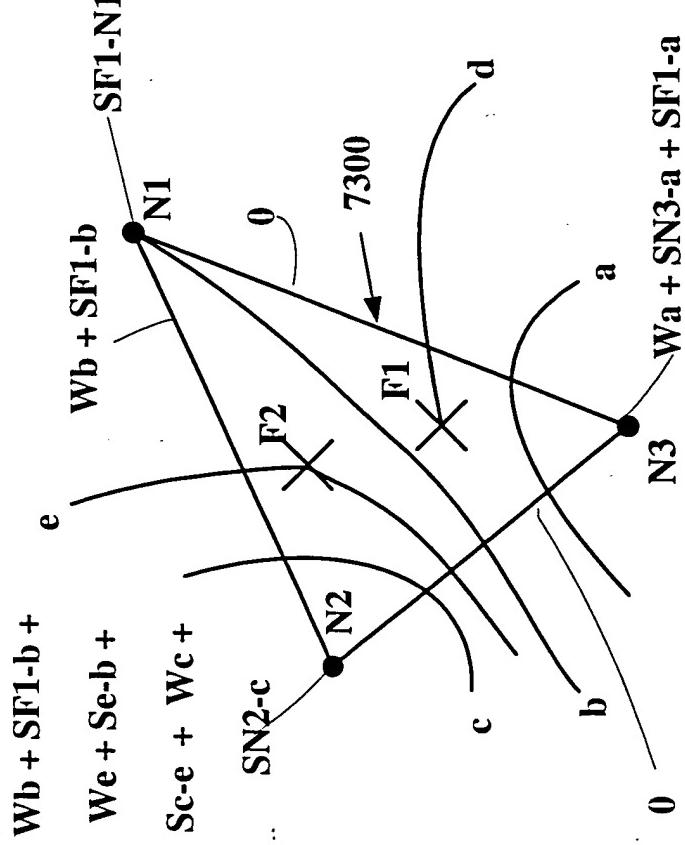


*Figure 75*

*Figure 78*



*Figure 76*



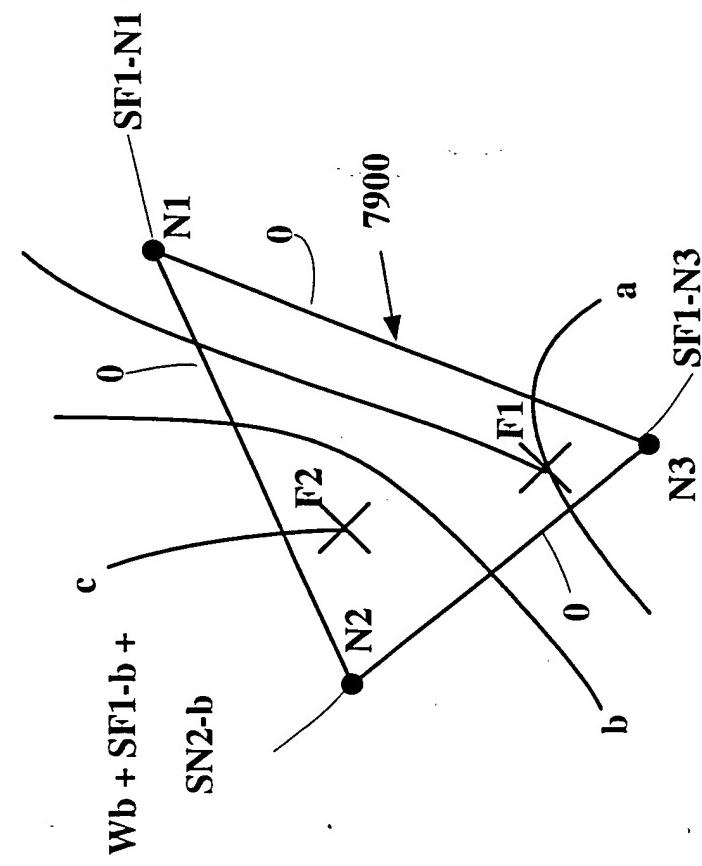


Figure 79

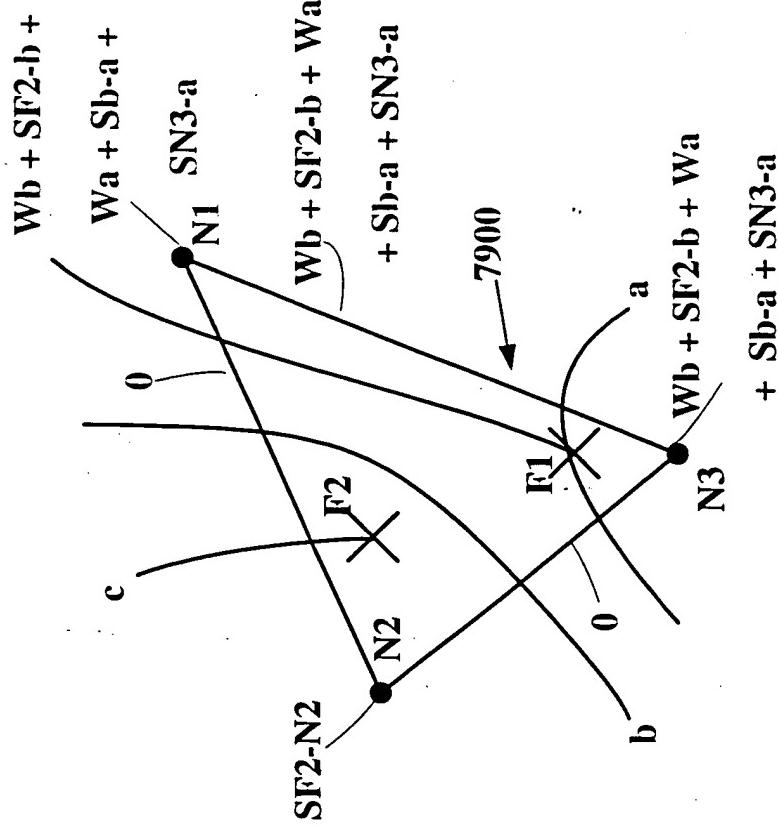
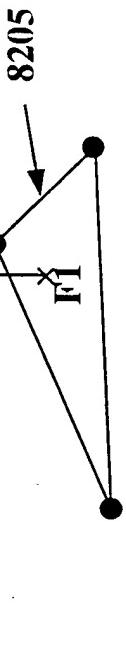
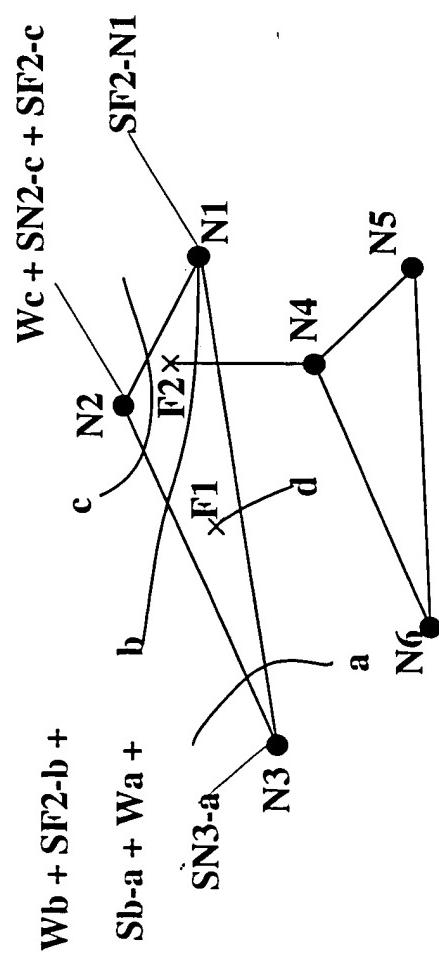


Figure 80



*Figure 82*



*Figure 81*

*Figure 83*

